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TRANSACTIONS

OF THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy,

HELD AT LAKE CHAUTAUQUA, N. Y., JUNE 26, 27, 28, AND 29, 1877.

NEW SERIES.

PHILADELPHIA:
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PREFACE.

THE Transactions of the Thirtieth Session of the American Institute of Homœopathy are herewith submitted. The Institute having repealed the rule by which such papers only as related to the subjects selected by the various bureaus were allowed to be published, a wider range of essays will be found in the present volume.

The delay in issuing the work, which would otherwise have been ready for delivery by the first of October, was due to the failure on the part of the engravers of the charts accompanying Professor Ludlam's paper to furnish the plates in time. It was the decision of the Publication Committee that the Transactions would be greatly depreciated in value by the omission of the excellent paper "On Clinical Thermometry applied to the Diseases of Women," and hence your Committee decided to wait.

On behalf of the Publication Committee,

ROBERT J. MCCLATCHEY,
General Secretary.

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AND

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OF THE

THIRTIETH SESSION

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VOLUME II. NUMBER 6.

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LIV.

PROCEEDINGS

OF THE

THIRTIETH SESSION

OF

THE AMERICAN INSTITUTE OF HOMŒOPATHY.

HELD AT LAKE CHAUTAUQUA, N. Y., JUNE 26, 27, 28, 29, 1877.

FIRST DAY.

MORNING SESSION.

THE Institute was called to order at 9½ o'clock A.M., in the hall of the Kent House, Lake View, Lake Chautauqua, N. Y., by the President, E. C. FRANKLIN, M.D., of St. Louis, Mo., who, after prayer by REV. THEODORE FLOOD, of Jamestown, N. Y., announced that the business of the thirtieth session of the Institute would now be transacted in accordance with the Order of Business prepared by the Committee of Arrangements.

THE PRESIDENT then delivered the Annual Address, as follows:

PRESIDENT'S ADDRESS.

Fellow-members of the American Institute of Homœopathy: At the memorable session of this Institute, held at Philadelphia last year in conjunction with the World's Homœopathic Con-

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vention, by your generous suffrages I was elected to the dignified and responsible position of President, the highest honor in the gift of the homœopathic profession in this country. Permit me, then, at the very threshold of our annual assemblage, to tender you my deep sense of gratitude for the distinction conferred upon me, with the request that you will continue the same spirit of goodwill and fraternity to the end of my official term. Strengthened by your guidance and co-operation in all that pertains to the dignity and harmony of the present session, I trust its deliberations and discussions will redound to the honor of our Institute and the glory of our profession.

When I survey this highly cultured audience, composed of the representative men of our profession, I feel the deep responsibility that attaches to your presiding officer in selecting an appropriate topic, one that shall be commendatory and instructive, for an inaugural address.

I might, perhaps, mount my "vexed Pegasus," and soar into the realms of poesy, attune my harp in measured numbers to the soft whisperings of fancy, the deep diapason of nature from hill, dale and streamlet, the perfumed breeze and the waving forest, chase the light and shadow of the passing cloud, build gossamer castles in circumambient air, or while away the hour in reveries of mental beatitude, and there rest my labor.

This might please the imagination and gratify the fancy, but inexorable duty admonishes me that I have an important trust to fulfil, a responsible mission to perform in behalf of my profession, one that deals with the prose of life, not its imagery.

We live in a utilitarian age of the world's history, where *science* from her lofty eminence beckons us onward to do our share of work for man's advancement. Everywhere we look we see the progress of human society in science, religion and the arts. There seems to be a general awakening of the intellect to burst the bonds and fetters of the old regime. Never before in the world's history have the real brainworkers been more earnest and thorough in developing new truths and controverting old theories.

Progress reigns throughout the length and breadth of civilization. Accumulative evidences of the steady march of mind,

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bearing rich and wholesome fruits for man's mental and physical improvement, attest the spirit of the age.

In theology, medicine and the collateral sciences, their respective advocates are pushing investigation into the very arcana of hidden law, eliciting new doctrines that are continually augmenting the domain of human thought and intelligence. The earth is ransacked to discover the missing links between man and the monad. Chemistry, with its potent crucible, is evoked, to circumvent the normal processes of metamorphose, to transmute baser materials into gold, and the blackened carbon into the flashing diamond.

The theories of Evolution and Evangelism, Darwinism and Deism have never before been so strongly discussed by their respective champions.

The satirical casuistry of Hume, the fiery pages of Paine, the trenchant arguments of Draper, the earnest and forcible reasoning of Strauss, the logical deductions of Tyndall, Procter and Huxley are developing doctrines that require the ablest efforts of theologians to successfully controvert.

The light of science is pouring upon us a continuous stream of effulgence, lighting up the dark caverns of our superstitious natures, and illuminating them with the clear sunbeam of intelligence.

Look at science to-day, and see how she has cleared up the mental pathway to a better knowledge of our little cosmos.

The astronomer has turned his telescope upon the adamantine firmament, and it has dissolved into thin air. The total solid particles that the blue expanse contains, as estimated by Tyndall, might be carefully packed in a lady's reticule. The glittering sparks that gemmed its surface have expanded into enormous suns, thousands of times larger than our own globe. The circumscribed heaven of the Apocalypse, twelve thousand furlongs broad, has grandly opened into an immensity of space, placing our little planet so far from the nearest fixed star that a locomotive engine, at its highest speed, could not reach it in seven hundred thousand centuries.

Our earth, from being the grand immovable planet, to which the sun and stars were mere decorations, has dwindled into the

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insignificance of the smallest pellet, and dislodged from its fixed centre, is sent whirling in its circuit, as a tiny satellite in the train of a *central* body; itself one of two hundred million suns, flying with its planetary fleet, within its own orbit, with incalculable velocity, around some larger centre.

Physicists have developed the acceptable theory that instead of a fall of the human race, and increasing ruin in the world, man has gradually climbed upwards in civilization, from cave habitations and rude habiliments of leaves and skins, to the high grade of civilization in our present epoch.

The nearer we approach prehistoric man, the more clearly do we perceive by cumulative evidence, thus far unimpeached, that the race has developed into its present condition from the lowest forms of barbarism. The men who fashioned the rude weapons and tools dug up in the peat-bogs of Ireland, the sand-pits of France, were only a little removed from the brutes among whom they dwelt. Possessing the human form and endowed with the simplest of the human faculties, these distinctive characteristics were all that divided them from the animal. Emerging from this humble estate, man has imperceptibly and continuously progressed, never retrograded. The result of unvarying laws operating upon material organism growing more and more refined, will increase and develop man's capacity for improvement; and we see in the struggles of the past and the triumphs of the present the pledges of a grander, nobler and more Godlike future.

Every dark corner of the earth, and strange event in the heavens, the habitations of "the great floods" have been explored and scrutinized. The monsters of the deep and mammoths of the jungle have been taken into captivity and trained to the submission of human intellect and direction. The pathway of the comet has been foretold. The cause of the earthquake has been revealed. Spectres have proved to be no more than mental illusions; lunacy has been traced to cerebral affections, disease to its various causes and antidotes scientifically administered. Law, immutable law, without the slightest slip or variation, reigns everywhere. Lily and solar system unfold in obedience to one and the same formula. *Similia* and gravitation respond to the same great and unchanging principle. The tiny

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match carried in our vest pocket, ready to leap into flame at a moment's attrition, has exorcised the fire deity, no more to be appeased by the sacrifice of our firstborn. The lightning imprisoned for man's uses is no longer revered as the bolt of Jove.

Science has mined in caverns and unearthed the implements and weapons of man among the mouldering bones of mammoths. It has delved amid the deep-buried and long-forgotten treasures of ancient cities, and unearthed from the tombs of past centuries the connecting links of historic ages.

The statue of Marcus Aurelius, the Roman Emperor, has been vivified from its mouldy grave of eighteen centuries; the temple of Zeus at Olympia, and the famous colossal statue of that god, by the illustrious Phidias (the sculptor's masterpiece of workmanship), has been discovered; a rich legacy to science, as showing the comprehensive grandeur of Grecian art in the early period of the earth's history, and connecting the nineteenth century with the beginning of the Christian era.

The tomb of Agamemnon, at the acropolis of Mycenæ, has been unearthed by the untiring energies of the great modern discoverer Schliemann, who proves that the cultivated poems of Homer, and especially the Iliad, that sings of the siege of Troy and the chivalrous deeds of this Grecian king and warrior, no longer exist in the uncertain fields of tradition, but are living historic facts, of inestimable value to the accumulated knowledge of the nineteenth century. Science has deciphered hieroglyphics, and found arts and history venerable even before commentators fixed the date of Adam's creation. It has assigned the formation of the vast beds of chalk and limestone, miles in breadth, to the manufacture of microscopic organisms. It has shown how the planet we occupy, correlated from a fiery cloud to a molten sphere, formed the external crust that now suspends us above the burning furnace raging within.

Amid all these grand, brilliant and sublime achievements in the realms of science, I would ask what has this boasted and enlightened civilization effected comparatively for *man himself*,

"In form and apprehension how like a God,"

for the tenement of that proud and mightly intellect?

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The casket of his genius and wisdom has mouldered away with other unnumbered millions who have inhabited this earth, and the only codicil left to the living strugglers for honor and fame is the sad and gloomy thought that he never turned investigation inward unto himself, but untimely perished through neglect or ignorance of those very laws that most interest his being.

How grandly impressive are the words of the philosophic Bacon, and how cogently they strike home to us, the medical progressives of the nineteenth century: "If by gaining knowledge," he says, "we destroy our health, we labor for a thing that will be useless in our hands; he that sinks his vessel by overloading it, though it be with gold and silver and precious stones, will give its owner but an ill account of his voyage."

Most of you, doubtless, have witnessed the painful spectacle of the student, who with the glow of ambition and feverish hectic struggling together on his manly cheek, still pursues his mental labors without regard to the laws of health. As he toils onward, bearing the promise of rich discoveries for human happiness, the chaplet of honor almost encircling his noble brow, he awakes to the awful revelation that the mortal worm is gnawing at his heart before the bud begins to wither, and he is lost, irretrievably lost, beyond the power of medical restitution.

This is no overwrought picture of the ideal brain, and the daily diaries of our practitioners of medicine, if rightly interpreted, prove that notwithstanding the great good that has been accomplished for suffering humanity when *prostrated* with sickness, too little has been accomplished to *prevent* "the various ills that flesh is heir to." As *practitioners* of this high art, as *conservators* of the public health, are we not more or less responsible for these daily sacrifices of life and health?

We have praised without stint the unsparing study that burns "the midnight oil;" our literature is teeming with the meed of honor that attaches to genius, that peculiar erratic outgrowth of mento-physical infirmity; and is it not strange that of the number of geniuses to which almost every village periodically gives birth, so few of these eccentrics are to be found? All along the shores of the great ocean of life, on whose current we

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are borne with resistless sweep, are strewn the wrecks of those whose embarkation was accomplished under the most hopeful and buoyant auspices.

We laud in glowing numbers the pale face and attenuated body, withering under a preternatural activity of mind; we have associated "muscle with rowdyism; glowing cheeks with inebriety; long-windedness with profanity," and broad shoulders with a lack of intellectual receptivity.

Thanks to that brave and heroic band of educational reformers who have stemmed this sweeping tide of popular error, and saved the thoughtless student from the inevitable destruction attendant upon excessive mental work without its compensating physical exercise, the cloud of poesy and ethereal vapor that enveloped the subject of intellectual paleness and physical innervation is passing away, and we are now beginning to respect the rights of the body as well as those of the mind.

We are fast finding out that the pale sickly student may win the most prizes in college, but the tough brawny one bears off the most prizes in life. "In every calling," says a distinguished author, "other things being equal, the most successful man will be the one who has slept the longest and digested the most dinners with the least difficulty."

This incessant overtaxing of the mind, and consequent impairment of the body, and the long row of vials and bottles filled with the tonics and stimulants of old physic to strengthen the weakened forces, are not only contrary to nature but are injurious and destructive to the physical man.

Every student that would accomplish good brainwork demands a constitution adequate to the labor imposed upon him. Sir Robert Peel, Palmerston, Brougham, and Gladstone, of England; Bismarck and Stahl, of Germany; Webster, Clay, Calhoun and Benton, of America, all great political leaders and prodigious workers at the bar and in the Senate, have been men of capacious organizations, who trained their bodies as sedulously as they did their intellects. It is significant, also, that the great physicist, John Tyndall, habituated himself to athletic games. He was an excellent swimmer, runner, climber, and no dull student at boxing, and I have no doubt that if the manly

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and exciting game of "base ball" had an existence in his youthful days, this great philosopher, the giant in science, would have been no mean adept in baserunning and throwing of the sphere. Admirers and frequenters of these manly games need no "commission on lunacy," as has been sneeringly said, "to rectify diseased brains or strengthen imbecile intellects."

Not so, however, with the daily and systematic brain-plodders who think they are doing the devil service if they should even indulge in a hearty laugh at a circus, or be found where amusement revels in the open air, taking in deep draughts of nature's stimulant, more healthful than champagne to him who thinks much and grows lean, and

> "Goes to pieces all at once,
> All at once, nothing first,—
> Just as bubbles do, when they burst."

A man without physical force may indeed become a giant in intellect, but the deeds he accomplishes are those of the dwarf. It has been said that a pound of energy, with an ounce of talent, will accomplish vastly more good results for mankind than the reverse, and to be energetic, and capable of doing great deeds, the generating forces within must be in the highest order of perfection.

It is true that we do sometimes see grand achievements performed despite of frail and half worn-out bodies, but they are the brilliant exceptions that prove the rule. There is nothing that taxes, tries and exhausts life-force like mental labor. The thinker everywhere requires a stalwart and hardy organism.

The sickly, pale, delicate and feeble body can only propagate results corresponding with its physical force. It is a truism that no matter how perfect the rifle or correct the aim, a light ball will not carry far; heavy men, like heavy bullets, do the most execution and win the battle at long range.

See Palmerston, with his cultured and manly vigor still burning within him, holding the reins of state with all the tenacity of a man of thirty; and Brougham, the tough, sinewy old man, wielding the intellectual and superior essence of his being with all the force of midage strength. That the king never dies, and

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that Brougham never sleeps, were the two leading features of English doctrine.

While upon this subject, let me suggest that Horace Mann's letter of advice to youth be written in letters of gold, bound in frames of silver, and suspended in the studio of every brain-worker. He says:

"In college I was taught all about the motions of the planets as carefully as though they would have been in danger of getting off the track if I had not known how to trace their orbits, but about my own organization, and the conditions indispensable to the healthy functions of my own body, I was left in profound ignorance. Nothing could have been more preposterous; I ought to have begun at home, and taken the stars when it should become their turn.

"The consequence was, I broke down at the beginning of my second college year, and have never had a well day since. Whatever labor I have since been able to do I have done it all on credit, instead of capital, a most ruinous way, either in regard to health or money. For the last twenty-five years, so far as regards health, I have been put from day to day on my good behavior, and during the whole of this period, as a Hibernian would say, if I had lived as other folks do for a month I should have died in a fortnight."

How many Manns do we daily see in our professional walks through life, where the engines within, by successive strokes and incessant work, have so shaken and weakened the hull, that the vessel is no longer fit for the purposes for which it was built.

What is true of other professions or other callings in life is eminently so of the medical; the practitioner of the healing art, of all others, should possess a strong, well-developed and vigorous constitution. The moral effect upon the sick and fretful patient of such a physician entering the sick-chamber is vastly beyond that of the pale, slender and attenuated doctor whose vital force is scarce in excess of that of his invalid patron.

In this connection, let me devote a spare moment to the consideration of educating men for the medical profession, and see how far short we come in doing the very thing we recommend to others, or in other words, of practicing what we preach. The

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classes in our medical colleges are mostly composed of young men from the agricultural districts, the workshops and other departments of industry, whose vitality and physical vigor largely depend upon a proper observance of those natural laws that belong to the domain of labor. They enter our medical institutions full of promise and hope; they are huddled together, like sheep driven under shelter by stress of weather, into the lecture-room, inadequate oftentimes for purposes of proper preservation of the life-sustaining force, its heating properties sadly defective, its ventilation and hygienic condition at the very lowest grade. Here they are kept sitting upright on hard benches until tired nature gives out, when they loll about, through sheer physical exhaustion, for six or seven hours daily, while their preceptors are pouring into their astonished and greedy mental maws "dead loads" of medical knowledge. Each successive day brings the same monotonous routine, and at night they burn the "midnight oil," or stinted gas, till the "wee sma' hours," poring over the various authors of each day's study, and ruminating, with pack-horse constancy, upon the dry and unimpressive lectures of the day before.

To this is added the study of anatomy, which is so important as to be considered almost the end and aim of a well-regulated course of instruction. To the dissecting-room they repair, where the demonstrator is in waiting, and after hard and fatiguing study, breathing the deteriorated atmosphere of the lecture-room all day, they take in the poisoned atmosphere from a half dozen partly decomposed bodies half of the night. In this way the tired, nearly exhausted student plods on, his brains weary, his body scarcely capacitated to perform the ordinary duties of nature.

For five long and laborious months this round of mental labor is kept up, and at the close of the session this stuffed medical neophyte, if he passes the ordeal of examination, is declared competent, to receive his dearly purchased reward, the degree of Doctor of Medicine.

Too often this is the kind of mental discipline that students undergo year after year to acquire a medical education in this country, with no adequate relaxation of the body or refreshment for the mind to strengthen the one or develop the other.

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The crowning glory of our medical schools seems not to be which shall excel in properly and scientifically disciplining the mind and educating both brain and body for the responsible and laborious duties of the future physician, but which shall obtain the biggest classes, and turn out the largest number of graduates.

Is this, fellow-members of the Institute, scientific study? This the programme to make *learned* doctors of medicine? This the process of teaching our students to think, and to think well? This the pathway to fame and honor in our calling? This the heritage to give to them who are to succeed those whose imperishable records in the footprints of history have shed a halo of glory around the pathway of medicine? Let us pause and consider ere we press further onward in this direction. Let us devote some thought and reflection to a matter of such paramount importance to ourselves, our profession and the world at large.

I do not make these reflections invidiously, nor in the slightest degree of hostility to any particular method of instruction in our medical institutions; but I speak in *general* terms of the manner of conducting the medical education of our matriculants, for the sole purpose of bringing before this learned body the great importance of uniting a systematic course of physical with mental education, as I believe no student can be properly trained to habits of correct reasoning and philosophical inquiry whose physical energies are continually depressed by an excessive course of mental labor.

Never before in the world's history was competition in education, and in fact in every calling and pursuit in life, so fierce as in the present; never did success in more than a moderate degree demand for its attainment such a union of physical and intellectual qualities.

Carlyle has truly said, "the race of life has become intense, the runners are treading upon each other's heels, and woe be to him who stops to tie his shoestrings."

What man most needs in this race is not genius, but purpose; or, as it may be otherwise expressed, not the will to achieve but the ability to labor, and to labor in such a way that the exertion to achieve does not impair the life force of the body to sustain.

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This driving spirit of the age is not alone confined to the walks of the medical profession; it pervades all classes of society, permeates every department of literature and the arts, enters the broad vestibules of our seminaries and universities of learning, and there infuses its leaven into the susceptible minds of both sexes.

The road to the temple of Esculapius has been made to appear so easy of ascent, so delightful to travel, so beautiful in prospective, that pilgrims are readily enticed to its sacred shrine from every direction, to possess themselves of its coveted gifts of healing.

Some of us, perhaps, have not forgotten the good old times of less than a quarter of a century ago, and the position the physician then held in the family circle. Then the medical man was regarded with a feeling almost akin to veneration. He exercised in the social scale an influence next in importance to the sacred office of minister of the gospel. Now his labors are scarce less commercial than those of the merchant. He *visits*, *prescribes*, *cures* his patients, sends his bill for collection, and if he gets his money he is lucky, and the *quid pro quo* transaction is ended. The honor and dignity of the once exalted profession is gradually degenerating, and he of our craft who caters to the public, says a recent author, in the guise of a *splendid turnout*, with a stunning silver plate on his door, who dresses in the height of fashion, gets unduly puffed in the "newspapers," hires a person to call him from the church on Sunday, or the opera during the weekday, gets acquainted with the "big bugs" of the town, and talks learnedly of *asphyxia* and *borborygmus*, are becoming the medical men of business in this utilitarian age. "The old-fashioned method of acquiring patronage by strict integrity and earnest and indefatigable attention to business might do in Jupiter or Saturn, but are totally out of place in this *puffing*, *billsticking* part of creation. In this rapid age, merit is voted a slow coach, and modesty a humbug."

The mythologists tell us that Minerva threw aside the flute when she found that it *puffed up her cheeks;* but if in this age men cast away the flute, it is to use a more potent instrument of puffing, *the blowing of their own horns.*

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Blow your own trumpet is the watchword of the day. Sound your charge and ride over somebody, or somebody will sound *his* charge and ride over you.

The people exercise the same principle in employing a doctor that govern them in purchasing a barrel of flour; they buy where they can buy the cheapest. They read the newspaper, give credence to and patronize the author of the miraculous cures published in its columns, laugh at the doctor when portrayed on the mimic stage, and are continually on the qui vive for new methods of cure, patronize fortune-tellers, blue glass speculators, cancer curers, magnetizers, natural bone-setters, etc., etc., and perchance only consult the medical man to evade the stigma of a coroner's inquest. The public see and criticize the rapid and imperfect manner in which doctors are made in this country, and is it any wonder that it entertains distrust and feels a want of confidence in our honored art?

It seems as plain as the noonday sun on the dial of time, that the mechanic of yesterday, working at his trade from week to week, suddenly seized with a cerebral hyperæmia, with his little box of medicine and popular guide, is the driving physician of to-day; that the tanner of a quarter of a century, failing in business and bankrupt in fortune, arrogates the dignified air of the medical man, and by dint of presumption and church influence hides the tanner under the toga of the doctor, and, with menial services, flattery and sycophancy outstrips the educated practitioner in the race for success, and steals away his patronage; that the blacksmith and carpenter, no longer content with their "roast beef and two dollars a day," turn doctors next and hammer into sick humanity the laws of health and the cure of disease, at two dollars a visit, "medicine extra." The cobbler reads a popular work on medicine, becomes inspired with "the divine art of healing," hies to some distant village, hangs out his shingle as doctor, practices a few months, writes to the Dean of a medical college, complaining of the legislature as a hard taskmaster enacting a most unrighteous law to deprive *him* of the right to practice his profession, urges extreme poverty, perhaps a large and sickly family, that prevents him from attending lectures, proclaims his devotion to his loved profession, tells of the great

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good he is accomplishing, refers to the merciless attacks of his enemies to injure his professional standing and drive him from his field of practice, and finally, by the payment of his lecture fees and the price of his diploma, secures oftentimes the coveted parchment which entitles him to a seat in this Institute, and makes him the PEER of those whose lifelong studies and well-earned reputations have purchased for them the respect and confidence of mankind. How applicable to all such unfitted aspirants for medical honors are the lines of Lessing:

> "Tompkins forsakes his last and awl,
> For literary squabbles,—
> Turns doctor next; but his trade
> Remains the same, he cobbles."

These too frequent examples of medical incompetency are no uncertain shadows of fancy, but are the painful evidences of *fact*, a fact no candid practitioner can question or attempt to controvert.

It is this very laxity in educational matters, touching the possession of a medical diploma and the right to legally practice our art, that has brought down upon us the reproach that at the present time envelops our calling; and if we would regain our former status, if we would place our profession in the proud position it once enjoyed, I repeat it, look to the education of those whom you would invest with the sacred office of physician.

I do not express these views as affecting the standpoint of homœopathy. I speak of the laxity of medical education *generally* in this country, and believe that the only way to accomplish the end in view is, not to *advise* and *recommend* wise and proper provisions for securing a liberal preparatory education in literature and science before the matriculant enters upon his medical studies, but to *enforce* upon our colleges a *uniform preparatory education* that will enable students to enter upon their medical curriculum with minds well stored with "scientific" knowledge, having especial reference to habits of correct reasoning and philosophic inquiry.

The able and interesting reports of Prof. D. Thayer, of Boston, chairman of the "Intercollegiate Committee," in 1875, as also that of Prof. A. E. Small, chairman of the "Committee on Homœopathic Colleges," in the same year, fully embrace all that

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is to be said upon this very important subject, and I earnestly recommend that the present session of this Institute will practically inaugurate additional reform in this direction; a reform that will place the homœopathic colleges in this country on a more advanced plan of medical education than has heretofore been attained by our professional rivals.

It is high time that the line should be drawn between those students who have by faithful and earnest study earned their medical degrees, and those who have purchased, or obtained by favoritism, their legal passports into the profession.

Gentlemen, having invited your attention to this subject, I leave it with you, feeling the fullest confidence in your zeal and ability to advance the right and retard the wrong.

In conclusion, permit me briefly to allude to the distinguished services and great personal worth of one who but a year ago occupied this chair, and to whose memory these sombre weeds testify the affectionate regard and fraternal reverence with which his name is held by the members of this Institute. He is gone. "Though lost to sight, to memory dear." He needs no panegyric, no pæans of praise, no complimentary peroration from your presiding officer. His works are his imperishable monuments,—his good deeds, his wise counsels, his friendly admonitions, and his deep interest in the welfare of this Institute, are continual memorials of his excellencies as a man and physician.

Truly has it been said, his best blood and life were devoted to the success of the "World's Homœopathic Convention," and his crowning glory is the priceless legacy left to us by his indefatigable services and the rich treasures of knowledge donated to the cause we all delight to honor.

Sacred be the imperishable tablet erected to his memory. His life ended in the very zenith of its usefulness to his medical brethren and good to his fellow-man; and it ended covering him with honor and our profession with glory.

"Rest he shall have now,—his work is o'er,
Rest on the beautiful, evergreen shore.
Over for him all the sorrows of life;
Lulled into quiet all noise and all strife;
Labors are ended, reward—endless life."

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DR. L. H. WILLARD, of Allegheny, Pa., moved, and it was carried, that the address be accepted, with the thanks of the Institute therefor.

It was further moved and carried that the address be referred to a special committee, to report thereon to the Institute during the present session.

T. P. WILSON, M.D., Vice-President, taking the chair, appointed the following *Committee on the President's Address:* L. H. Willard, M.D., Allegheny, Pa.; S. P. Hedges, M.D., Chicago, Ill.; D. H. Beckwith, M.D., Cleveland, O.

THE PRESIDENT, resuming the chair, appointed the following committees:

COMMITTEE ON CREDENTIALS.

T. FRANKLIN SMITH, M.D, of New York.
C. H. VON TAGEN, M.D, of Chicago.
S. H. ROBINSON, M.D., Laporte, Ind.

AUDITING COMMITTEE.

JOHN E JAMES, M D., Philadelphia.
PHILO G. VALENTINE, M.D., St. Louis, Mo.
E. DARWIN JONES, M.D., Albany, N. Y.

ROBT. J. MCCLATCHEY, M.D., of Philadelphia, *General Secretary*, then presented the report of the

COMMITTEE OF PUBLICATION.

The report stated that the committee greatly regretted being compelled to announce that they had been unable to complete the *Transactions of the World's Homœopathic Convention*. The protracted illness of Dr. Dunham, which commenced shortly after his return to Irvington, in the fall of 1876, and terminated in his greatly lamented death, in the latter part of February last, had prevented the preparation for the press of a large mass of papers in his hands, and these had come into the hands of the General Secretary for completion, who had found it impossible to have even one volume of the proceedings ready for this meeting. The General Secretary, however, reports that so much has been already printed, and that the MS. of the remaining portions is in such a state of forwardness, that both volumes will, in all probability, be ready for delivery, to members and others entitled to receive them, within three or four months after the adjournment of this session.

The Committee of Publication desire to call the attention of the Institute to the fact reported by the General Secretary, of the very scanty material furnished for the making up of a historical and statistical report of the rise and progress of homœopathy in the United States, as a part of the proceed-

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ings of the World's Homœopathic Convention, notwithstanding the time afforded for the preparation of such material, and the acceptance of such work by numerous sub-committees. One great State, with an important homœopathic record, has furnished not one line of history; and another great State, with a still more important and interesting homœopathic record, has furnished little or nothing beyond a series of disjointed fragments in the shape of printed reports of societies, institutions, etc. To gather the history of homœopathy in these States and others, therefore, the General Secretary has been compelled to consult the periodical literature of our school, at a great loss of time and expenditure of unnecessary labor, and doubtless the history of homœopathy in the United States will, for these reasons, be defective and unsatisfactory, especially as not one line of it has passed under the masterly hand of Dr. Dunham, who possessed, in so marked a degree, the ability to bring order out of a literary chaos.

Your committee desire instruction in regard to one of the papers of the World's Homœopathic Convention, a lengthy and valuable monograph on the various preparations of Mercury. It was the opinion of Dr. Dunham that this monograph, which was, in his opinion, very valuable, should be published as a third and supplementary volume, in boards, should the funds for the publication of the Proceedings of the Convention admit of its being done. Your committee, however, have learned that the author has caused it to be published in Germany, and they wish to be instructed under these circumstances.

On motion of Dr. J. C. Burgher, of Pittsburg, Pa., the report was accepted and referred to the Committee of Publication.

THE PRESIDENT: The next business in order will be the presentation of the

REPORT OF THE TREASURER.

E. M. KELLOGG, M.D., of new York, *Treasurer*, then presented his Annual Report, which was, on motion, referred to the *Auditing Committee.*

THE TREASURER then made the following supplementary statement:

Mr. President and Fellow-members. The balance in the hands of the Treasurer, which has just been reported to you, will all be absorbed in the publication of the Proceedings of the World's Homœopathic Convention of 1876, and cannot be counted on for any other purpose. As you are all aware, during the past two or three years the annual volumes have been published from six months to a year after the meetings of the Institute, or in other

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words, the members have received at one meeting, or shortly before, the Transactions of the preceding meeting; and of course this has been very unsatisfactory to all concerned, members and officers. When the Institute was a small affair, and its annual volumes made up at the most from a hundred and fifty to two hundred pages, it was an easy matter to get out the Proceedings, and even in those days there was no great degree of promptness, except occasionally. The present General Secretary for several years got out the volume with a commendable degree of promptitude; but the load has now become too great for any one man to carry, even as a labor of love, and something must be done to lighten the burden that officer has to bear. I therefore move, Mr. President, that a committee of five be appointed by the chair to consider the means by which the Transactions of the Institute can be published and issued promptly after every session, and to report thereon as soon as possible during the session of the Institute.

The motion of Dr. Kellogg was unanimously agreed to, and the President subsequently appointed the following

COMMITTEE ON SPEEDY PUBLICATION OF TRANSACTIONS:

T. P. Wilson, M.D.,	Cincinnati, O.
L. H. Willard, M.D.,	Allegheny, Pa.
L. E. Ober, M.D.,	La Crosse, Wis.
Geo. A. Hall, M.D.,	Chicago, Ill.
O. B. Gause, M.D.,	Philadelphia.

The Secretary then read a synopsis of the

NECROLOGICAL REPORT,

Prepared by Henry D. Paine, M.D., of New York, *Necrologist.*

The report, was on motion, accepted and referred to the Committee of Publication.

B. W. James, M.D., of Philadelphia: *Mr. President:* It seems fitting in conjunction with this subject, the necrology of the Institute, that resolutions should be passed by this association, expressive of our feelings in regard to our late President,

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Dr. Carroll Dunham. I therefore move that a committee of five be appointed by the chair, to report on the subject at the present session.

Agreed to.

THE PRESIDENT: The committee will consist of the following members:

BUSHROD W. JAMES, M.D.,	Philadelphia.
PHILO G. VALENTINE, M.D.,	St. Louis.
S. LILIENTHAL, M.D.,	New York.
R. LUDLAM, M.D.,	Chicago.
E. DARWIN JONES, M.D.,	Albany.

F. R. MCMANUS, M.D., of Baltimore, *Chairman of the Board of Censors*, presented the names of a large number of applicants for membership, with the request that if any member had any objection to offer to an applicant, it should be offered at once.

S. LILIENTHAL, M.D.: *Mr. President:* Before we begin with the business of the bureaus, I wish to call the attention of the members to the fact that, according to the present rules or by-laws of the Institute, the bureaus are required to select special subjects for presentation here, and that papers not treating of the subject selected by a bureau must be excluded from the Transactions, as only papers on the selected subject can be published; and on the other hand these excluded papers cannot be published in the journals, because they are the property of the Institute. This seems to me to be unjust, and I think our rules should be so amended as to allow of such excluded papers being referred back to their authors, with permission to publish them in such journal as they may select. I make this as a motion.

THE PRESIDENT: You have heard the motion of Dr. Lilienthal. The subject is now open for discussion.

R. LUDLAM, M.D., of Chicago: I would like to inquire whether in case a paper is irregular, it will not be proper and feasible for the Institute to suspend the rules and order the publication of that paper, if the members think it sufficiently meritorious to warrant publication.

O. B. GAUSE, M.D., of Philadelphia: It seems to me that

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the intervention of the World's Homœopathic Convention caused these new rules adopted at the Put-in-Bay meeting to fade from the memories of a great many of the members. I am told by the Secretary that but a single bureau has complied with the rules as there adopted. It seems to me that it would be right and proper to disregard these rules this time, and get the papers brought here in good faith presented, and published if they are worthy of publication. We cannot afford to do without Dr. Ludlam's paper. I know the importance of the subject on which he has written, and I know something of the writer, and I believe that his paper will be so valuable that it should not be excluded simply because it is "irregular." I think the rules should be suspended for this session, and I make that a motion.

THE PRESIDENT: The motion to suspend these rules I decide to be out of order. They are by-laws, and it is provided only that they may be altered or amended by a two-thirds vote of the Institute.

DR. LILIENTHAL: What we want to get at is the publication of these outside papers somewhere. The Secretary says he has no power to hand them back to the writers, or to give them to journalists. They are the property of the Institute, and yet they cannot be published because they are not on the subject selected; and so they must go into the waste-basket or accumulate in the hands of the Secretary.

DR. GAUSE: I think the Institute should keep its own property, and yet it can provide for the publication of meritorious papers.

T. J. PATCHEN, M.D., of Hot Springs, Ark.: I would like to ask what this property is worth if it is to go into the waste-basket? I am in favor of having those irregular papers published in the journals, if they cannot be printed with the Transactions.

DR. LILIENTHAL: I would ask Dr. McClatchey to give us the rules relating to these matters. As I understand them, they work about as follows: In my Bureau of Clinical Medicine, the subject selected is spinal diseases. Now if a member presents a paper on inflammation of the lungs, it is necessarily excluded from publication in the Transactions because it is not on spinal disease, and yet as the Institute accepts it, it becomes its property, and goes

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into the hands of the Committee of Publication, who have, however, no power to print it anywhere.

PHILO G. VALENTINE, M.D., St. Louis, Mo.: I don't agree with Dr. Lilienthal. These papers are not the property of the Institute if the Institute does not desire them or intend them for publication.

BUSHROD W. JAMES, M.D., of Philadelphia, Pa.: It seems to me that we are spending a great deal of time in discussing a matter that can be better managed through a committee. As the laws at present stand, we can have no papers printed in the annual volume excepting these that have been already printed and distributed to the members viz.: the report of the Bureau of Materia Medica and a part of the report of the Bureau of Surgery.

Dr. LILIENTHAL: Let us hear from the Secretary.

THE SECRETARY: In response to Dr. Lilienthal, and for the information of the Institute, permit me to make a statement. The Institute has a number of rules relating to its publications, and they are all comprised in Article VII of the By-laws. They provide, first, that every bureau shall select a special subject to be reported on by them, or to be discussed by the Institute; and, again, it is provided that no bureau papers shall be published in the Transactions but those bearing on the special subjects selected. At the meeting at Put-in-Bay, in 1875, the By-laws were amended to provide that all papers presented to the Institute should be in the hands of chairmen of bureaus at least three months prior to the meeting; that the chairmen should forward to the General Secretary the papers on the special subjects or a selection therefrom, and the titles of all papers in their possession, at least two months prior to the meeting, that the Secretary may have copies printed and furnished to the respective bureaus before the meeting and to the members at the meeting. Now the object of all this legislation was to prevent the introduction into the annual volume of a miscellaneous assortment of papers, of which great complaint had been made, to pin the bureaus down to one subject per annum, and get all their working capacity into one direction, and thus secure a better class of papers, and to compel care in their preparation by providing that they shall be in the hands of chairmen at least three months prior to the meet-

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ing, and thus do away with the hasty preparation of unconsidered papers on the way to the meeting or even during the session, and finally to secure intelligent discussion of the subjects presented by having them printed and distributed to the members of bureaus in advance, and to all others at the time of meeting. This seemed at the time it was adopted to be wise legislation, and these amendments passed by a unanimous vote. One bureau—*Materia Medica*—has complied with the rules entirely, and another bureau—*Surgery*—has partially complied with these rules.

In relation to ownership of papers presented by the bureaus which have been termed irregular; if bureaus present these papers to the Institute, knowing the rules, and the Institute accepts them and refers them to the Committee of Publication, they entirely pass out of the ownership of the writers and of the bureaus and become the property of the Institute. They are referred to the Committee of Publication, but the committee cannot publish them in the Transactions on account of the rules, and it has no right to give them back to the writers or to publish them in journals because they are the property of the Institute. In this way quite a number of papers have accumulated in the hands of the Secretary, and members have written angrily to know why their papers were not published with the Transactions. Dr. Carroll Dunham had the papers on Primary and Secondary Symptoms presented by the Bureau of Materia Medica at Put-in-Bay, and which were excluded from the Transactions, published in the journals, with the advice and consent of the writers, but he assumed all the responsibility of the transaction. Members of the Institute and members of bureaus are supposed to know the rules, and if members see fit to write irregular papers, and chairmen of bureaus see fit to present them here, the Institute can do no less, as an act of courtesy, than receive and refer them, and having done so they become the property of the Institute, as much as do the regular papers of the bureaus, concerning which the Institute has very emphatically asserted ownership. Now, notwithstanding all this, the Institute is paramount, and I believe it can order the publication of any paper, regular or irregular, or it can alter or amend its By-laws by a two-thirds vote of the members present at any annual meeting.

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DR. B. W. JAMES moved, and it was carried, that the whole matter be placed in the hands of a committee of three, to report to the Institute for its action. Dr. James suggested that either Dr. Lilienthal or Dr. Gause be chairman of the committee.

THE PRESIDENT: The committee will consist of Dr. S. Lilienthal, of New York, R. Ludlam, of Chicago, and O. B. Gause, of Philadelphia.

THE PRESIDENT: We will now proceed with the interrupted regular order of business, and hear the report and papers of the

BUREAU OF PÆDOLOGY,

Which are, I believe, in the hands of Dr. W. H. Jenney.

W. H. JENNEY M.D., of Kansas City, Mo.: *Mr. President and Gentlemen*: The papers of this bureau came into my hands but a short time ago, and I have scarcely had time to examine them. They are on the subject of hydrocephalus and hydrocephaloid and their treatment. I cannot promise to read them fluently, but will do the best I can. The first paper is by the chairman of the bureau, Dr. T. C. Duncan, of Chicago, and I will now proceed to read it to the best of my ability.

Dr. T. P. WILSON: I rise to a point of order. Precedence in the reading of papers should be given to those members of the bureau who are present and able to read their own productions. It should then be left to the Institute to say whether it will hear any or all of the other papers or not. The Chair should give a ruling on these points.

THE PRESIDENT: The Chair will rule on the subject of papers, according to precedent, as follows: Members of bureaus who are present will have the privilege of reading their papers first; papers the authors of which are not present will not be read unless called for by a vote of the Institute; fifteen minutes will be allotted to the reading of a paper, and no more, unless by a special vote. If this ruling of the Chair is not objected to, it will be considered as the rule of the Institute.

Dr. JENNEY: I shall then read only my own paper, as I am the only member of the bureau present. The bureau, however, presents the following papers:

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Pathology and Morbid Anatomy of Hydrocephalus and Hydrocephaloid; by C. D. CRANK, M.D., of Cincinati, O.

Differential Diagnosis of Hydrocephalus and Hydrocephaloid; by N. R. MORSE, M.D., of Salem, Mass.

Prevention of Hydrocephalus and Hydrocephaloid; by T. C. DUNCAN, M.D., of Chicago.

Treatment of Hydrocephaloid; by H. V. MILLER, M.D., of Syracuse, N. Y.

Experience with Hydrocephalus and Hydrocephaloid in California; by W. N. GRISWOLD, M.D., of San Francisco.

Experience in the Treatment of Hydrocephalus and Hydrocephaloid in the Mississippi Valley; by W. H. JENNEY, M.D., Kansas City, Mo.

Dr. Jenney then read his paper with the above title.

On motion of Dr. Philo G. Valentine, Dr. Griswold's paper was then read by the Secretary.

The subject presented by the bureau was then discussed at some length. (See Section XII.)

On motion of Dr. B. W. James, the papers of the bureau were then accepted and referred to the Committee of Publication, and the bureau was declared closed.

THE PRESIDENT: In accordance with the rules, it is now the duty of the Institute to elect a chairman of the Bureau of Pædology, for the ensuing year.

DR. W. H. JENNEY, of Kansas City, Mo., was thereupon elected *Chairman of the Bureau of Pædology* for the ensuing year.

F. R. MCMANUS, M.D., of Baltimore, *Chairman of the Board of Censors*, then presented the first report of the Board, reading the names of a number of applicants for membership, with the recommendation that they be elected. Objection, however, was made to the admission of one applicant who claimed to have a diploma issued by the Regents of the University of the State of New York, on the recommendation of a Board of Examiners appointed under the authority of the State.

LEWIS SHERMAN, M.D., of Milwaukee, Wis., claimed that there was no such medical institution as the one mentioned in the application. Considerable discussion on the subject then fol-

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lowed, whereupon Dr. McManus, with the permission of the house, withdrew the report.

The Institute then adjourned to meet in the evening at 8 o'clock, after which the members gathered around Dr. C. F. Ormes, of Jamestown, N. Y., who presented a very interesting case in gynæcological surgery.

EVENING SESSION.

The Institute was called to order at 8 o'clock, by the President, Dr. E. C. Franklin.

THE PRESIDENT: We will now proceed with the order of business, and take up the report and papers of the .

BUREAU OF GYNÆCOLOGY.

J. C. BURGHER, M.D., of Pittsburg, Pa., chairman of the bureau, announced that the Bureau of Gynæcology had selected as a special subject for presentation and discussion, *Pelvic Cellulitis*, and that Dr. S. R. Beckwith had promised to prepare a paper on that subject, but, he regretted to say, the paper had not as yet reached his hands, and its author was absent. He had the pleasure of presenting, however, the following valuable papers, although not on the subject selected by the bureau:

Rheumatism of the Womb and Metastasis to the Brain; by C. F. ORMES, M.D., of Jamestown, N. Y.

Ovariotomy; by S. S. LUNGREN, M D., of Toledo, O.

On Clinical Thermometry applied to Diseases of Women; by R. LUDLAM, M.D., of Chicago.

It was moved and carried unanimously that the papers of Drs. Ormes, Lungren and Ludlam, although not on the subject selected by the bureau, be read.

DR. C. F. ORMES then read his paper on *Rheumatism of the Womb and Metastasis to the Brain.*

DR. S. S. LUNGREN read his paper on *Ovariotomy*, and DR. R. LUDLAM read his paper on *Clinical Thermometry applied to the Diseases of Women.*

THE PRESIDENT then announced that the papers were open for discussion, and requested the members to speak briefly and promptly, so as to expedite business.

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The papers were then discussed, after which a motion was made and carried that they be referred to the Committee of Publication and the bureau closed. (See Section XI.)

HENRY N. GUERNSEY, M.D., of Philadelphia, was elected *Chairman of the Bureau of Gynæcology* for the ensuing year.

DR. B. W. JAMES, of Philadelphia: *Mr. President:* In behalf of the committee to prepare resolutions in memory of our late President, Dr. Carroll Dunham, I beg leave to report that your committee is desirous that the Institute should set apart an hour to be devoted to a special Memorial Session, during which time those who wish will have an opportunity to express their grief at our great loss, and to pay a tribute to the memory of our departed colleague. I would move that we go into a Memorial Session to-morrow at noon.

Agreed to unanimously.

DR. J. C. SANDERS, of Cleveland, Ohio, called attention to the fact that in consequence of objection having been made to the admission of one applicant for membership reported by the Board of Censors, all other applicants on the list had been kept out by the action of the Institute, and that many of these being present and desirous of taking part in the business and discussions, it seemed an act of injustice to debar them from these privileges. He therefore moved that the report of the Censors, made in the morning session, be taken up and disposed of.

Agreed to.

The report of the Censors was then taken up, and objection was still made to the admission of one applicant. This was followed by a general discussion on the merits of the case, pro and con; whereupon the Secretary moved, and it was carried unanimously, that the application objected to be referred back to the Censors, for them to take testimony in the case and make a final report to the Institute, and that the remaining report of the Censors be received.

It was then moved and carried that the applicants for membership whose names had just been received, be declared members of the Institute. (See *Complete Report of the Board of Censors.*)

The Institute then adjourned.

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SECOND DAY.

MORNING SESSION.

The Institute was called to order at 9½ o'clock by the President.

THE PRESIDENT: The first business in order this morning will be a report from the

BUREAU OF OBSTETRICS,

of which Dr. O. B. Gause, of Philadelphia, is chairman.

O. B. GAUSE, M.D., of Philadelphia: The Bureau of Obstetrics has selected *Hæmorrhage as a Complication of Gestation and Childbirth* as a subject for presentation and discussion. We have four papers on that subject to offer. Dr. Mercy B. Jackson, of Boston, had assigned to her the therapeutics of uterine hæmorrhage under the above conditions, but she has given us reports of two cases of post-partum hæmorrhage merely. The papers of the bureau are:

Uterine Hæmorrhage during Pregnancy and after Delivery at Term; by J. F. COOPER, M.D., of Allegheny, Pa.

Treatment of Puerperal Hæmorrhage by other than Therapeutic Measures; by J. C. SANDERS, M.D., of Cleveland, O.

The Homœopathic Treatment of Post-partum Hæmorrhage; by MERCY B. JACKSON, M.D., of Boston.

Uterine Hæmorrhage as a Complication of Gestation and Childbirth; by O. B. GAUSE, M.D., of Philadelphia.

DR. J. C. SANDERS read his paper on *The Treatment of Puerperal Hæmorrhage by other than Therapeutic Measures.*

DR. O. B. GAUSE then read his paper on *Uterine Hæmorrhage as a Complication of Gestation and Childbirth.*

On motion, the papers of the bureau were accepted and referred to the Committee of Publication, and the bureau was declared closed, it having been understood that the Bureau of Obstetrics in conjunction with the Bureau of Gynæcology would go into sectional meeting in the afternoon at 3 o'clock.

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J. F. COOPER, M.D., of Allegheny, Pa., was elected *Chairman of the Bureau of Obstetrics* for the ensuing year.

THE SECRETARY presented the resignation of Robert Faulkner, M.D., of Erie, Pa., which was, on motion, accepted, provided his dues are paid.

REPORT OF THE AUDITING COMMITTEE.

The *Auditing Committee* reported that they had examined the accounts and vouchers of the Treasurer and had found them correct; whereupon the report was accepted and the committee discharged.

The *Treasurer's Report* was then accepted and referred to the Committee of Publication. (See Article LV, Section I.)

F. R. MCMANUS, M.D., *Chairman of the Board of Censors*, then presented the name of Howard L. Waldo, M.D., of West Troy, N. Y., a graduate by authority of the Regents of the University of the State of New York, as an applicant for membership, with the recommendation that he be elected. It was moved and carried unanimously that he be declared a member of the Institute.

COMMITTEE ON MEDICAL LITERATURE.

THE SECRETARY read the report of the Committee on Medical Literature, prepared by PROFESSOR A. E. SMALL, of Chicago. On motion, the report was accepted and referred to the Committee of Publication.

It was then moved and carried that the report of the committee be at the disposal of the journals, and that they be requested to print it.

J. D. BUCK, M.D., of Cincinnati, Ohio, was elected *Chairman of the Bureau of Medical Literature* for the ensuing year.

COMMITTEE ON A HOMŒOPATHIC DISPENSATORY.

THE SECRETARY stated that the sickness and death of Dr. Dunham had put a stop to the work of the committee, but he was prepared to say that the papers were in a condition of great forwardness, and that probably but little labor would be required

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to complete the work which had already been advanced by the exertions of Dr. Dunham. He had received no report from Dr. T. F. Allen, who succeeded to the chairmanship, but it was possible that one might yet come to hand.

On motion, the report of the Secretary was received, and the committee was continued as at present constituted.

COMMITTEE ON FOREIGN CORRESPONDENCE.

THE SECRETARY stated that no report had been received from this committee, of which Dr. Charles N. Bacon, of New York, is chairman, and he was of the opinion that the committee had nothing to report.

On motion, the statement of the Secretary was accepted, and the committee was continued.

THE PRESIDENT: The next business will be the presentation of the report and papers in charge of the

BUREAU OF SURGERY,

of which your President has the honor to be chairman. The papers have been placed in the hands of Dr. L. H. Willard, who will present them and act as chairman of the bureau.

LEWIS H. WILLARD, M.D., of Allegheny, Pa., then announced the following papers:

Excision of the Clavicle; by E. C. FRANKLIN, M.D., of St. Louis.

Diseases and Excisions of the Wrist-joint; by J. G. GILCHRIST, M.D., of Detroit, Mich.

Diseases and Injuries of the Knee-joint, with Excisions; by J. H. MCCLELLAND, M.D., of Pittsburg, Pa.

Dislocations and Fractures of the Scapula; by H. F. BIGGAR, M.D., of Cleveland, O.

Diseases and Excisions of the Shoulder; by N. SCHNEIDER, M.D., of Cleveland, O.

Diseases and Injuries of the Elbow-joint; by L. H. WILLARD, M.D., of Allegheny, Pa.

DR. WILLARD: The papers of Drs. Franklin and Gilchrist

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have been printed by the Secretary in accordance with the rules of the Institute, and are here for your inspection; they need not, therefore, be read. The papers by Drs. McClelland, Biggar, Schneider and myself will be read.

DR. H. F. BIGGAR, of Cleveland, O, read his paper on *Dislocations and Fractures of the Scapula.*

DR. N. SCHNEIDER, of Cleveland, then read his paper on *Diseases and Excisions of the Shoulder.*

DR. L. H. WILLARD, of Allegheny, followed by reading his paper on *Diseases and Injuries of the Elbow-joint;* and

DR. J. H. MCCLELLAND, of Pittsburg, read his paper on *Diseases and Injuries of the Knee-joint.*

On motion of L. E. OBER, M.D., of La Crosse, Wis., the papers of the Bureau of Surgery were accepted and referred to the Committee of Publication.

MEMORIAL SESSION

IN MEMORY OF

CARROLL DUNHAM, M.D.

THE PRESIDENT: *Fellow-members of the Institute:* The hour of noon has now arrived, and the time set apart by your unanimous vote for holding a session in memory of our late beloved President, Carroll Dunham. You will hear the report of the chairman of the Committee on Resolutions, Dr. B. W. James, of Philadelphia.

BUSHROD W. JAMES, M.D., of Philadelphia: *Mr. President and Gentlemen:* Your committee have felt that they had a very solemn duty to perform, and they have endeavored to fulfil their obligations in that spirit. They have endeavored to embody in the form of a preamble and resolutions, for your consideration,

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those sentiments which we know fill all our hearts, and to which our mere words can give but feeble expression:

WHEREAS, Almighty God, in his infinite wisdom, has removed from among us our esteemed fellow-member and late President, and

WHEREAS, We deeply feel the great and irreparable loss of so valuable a colleague and friend, and being desirous of giving expression to this feeling towards one who was so widely and so much beloved, truly honored and implicitly trusted, therefore

Resolved, By the members of the American Institute of Homœopathy, convened in Annual Session at Lake Chautauqua, N. Y., this twenty-seventh day of June, 1877, that in the death of CARROLL DUNHAM, M.D., homœopathy throughout the world has suffered a great and grievous loss.

Resolved, That the medical profession has by his decease lost one of its ablest writers and teachers, and the community a noble and consistent benefactor.

Resolved, That we tender to his bereaved family, as a body, our heartfelt sympathy and condolence.

Resolved, That a copy of this preamble and resolutions be transmitted to the family of our departed friend, and published as a part of the transactions of this Institute.

Attest: BUSHROD W. JAMES, M.D., Philadelphia.
SAMUEL LILIENTHAL, M.D., New York.
R. LUDLAM, M.D., Chicago.
PHILO G. VALENTINE, M.D., St Louis.
E. DARWIN JONES, M.D., Albany, N Y.
Committee.

THE PRESIDENT: The members of the Institute have heard the report of the committee; what action will you take on it?

A MEMBER: I move the report of the committee be accepted.

Agreed to.

THE PRESIDENT: Now, gentlemen, the preamble and resolutions just read are before you; what action will you take on them?

DR. LILIENTHAL: I move their adoption by a rising vote.

The preamble and resolutions were then unanimously adopted by the entire assemblage rising to their feet.

DR. B. W. JAMES: *Mr. President and Gentlemen:* It was considered at the time the hour was fixed for the reception of this report, that opportunity should be given to those who might wish to say a few words expressive of their feeling in the matter. I wish that I had command of language sufficient to express the

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pent-up feelings of my heart with regard to Carroll Dunham and his works; but I have not. He was plucked from us by the remorseless hand of death, like a blooming flower in the maturity of its beauty and loveliness. I will leave the matter here now for any who choose to speak.

T. P. WILSON, M.D., of Cincinnati, O.: *Mr. President and Gentlemen:* It is not for us to mourn over the dead. Knowledge, no less than an enlightened religious faith, shows death to have no sting, and the grave to have no victory. Because we have lived yesterday, and are living to-day, we do know that we shall live to-morrow. It is well for us that we are compelled to pause and gaze upon the faces of our dead, else we might forget that we were once possessors of the past, and that we are heirs of the future. Human life is said to be an inscrutable mystery, but the problem is in so far solved when we are enabled to link to the future that which has been and now is. Just as we behold the roseate spring melting into the warm lap of summer, and the florid summer sobering into the gray tints of autumn, and the luscious autumn at last crumbling to decay in the pitiless arms of winter, so do we behold our infancy hopefully developing into manhood, and manhood ripening into old age, and old age crowned at last with death. I say we behold these things with no touch of sorrow, much less of despair, knowing that to each of these there comes, in God's eternal cycles, another spring that shall wear the diadems of beauty and hope, and whose coronation shall be celebrated with songs and flowers.

Brief as human life is, our career from birth to threescore years and ten is not speedily accomplished. Many suns rise and set, many moons wax and wane before man reaches his maturity. What tireless waitings, what ceaseless care and loved responsibilities are borne by the anxious and devoted mother. How slowly pass the weeks and months before thought and language are born in the infant mind; but truth and beauty are ceaselessly calling him out into ever-broadening spheres. Climbing up and up he reaches maturity, and enters upon a long and even plane of life. Labor and care, heavy responsibilities and heart-burning sorrows, are mingled with bright anticipations and manifold pleasures. At last, through the long march of decades, he presses

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the further verge of the century whose darkest shadows are still made radiant with beams that gild the descending hillsides.

Ah, how glorious such a view when it bursts upon our vision! How Godlike such a character! Why we gather from it all our finite ideas of the divine. It is the full shock of corn; it is the ripened sheaf in the hands of the reaper.

What can be the natural termination of such a magnificent history? How can such a wondrously organized being crumble to dust beneath the tooth of time? How can it wither at the touch of disease? How can it fall, and forever lie as the mighty oak before the storm? How can it say to corruption, thou art my father, and to the worm, thou art my brother? It might the rather stand in all its completeness a perpetual monument of divine excellence; it might as a fitting finale go up like one of old in a chariot of fire, not having tasted of death; it might, like Pygmalion's Galatea, slowly and imperceptibly vanish from our wondering sight.

But however and whenever it may seem to go from us, whether in the morning's dawn, or in the full noontide, or in the shades of night, it is never lost. It has been, and it ever will be ours. God's eternal law of conservation will admit no loss, and we stand as it were at this hour looking into the open grave of our beloved Carroll Dunham, looking upon his pale face and folded hands, upon his closed eyes and silent lips, and we find it hard to realize that he has gone from us in the ripeness of a glorious manhood, in the fulness of his strength, in the possession of a character spotless as the infant's, and overflowing with gentleness, goodness, and truth. But Carroll Dunham is not dead. He was not born to die. The oaks may fall upon the sides of the mountains, the mountains themselves may perish, but while God lives the Godlike shall not cease to be.

"Oh, poets, have ye sung of lofty hopes that wither,
Graves that lie beneath the grass and the flowers,
With mournful eyes ye are forever here and thither,
And furnish tears. Ye weep o'er graves that are not ours."

"Not to the tractless dust is bound,
Not to the gloom of the narrow ground
Is the life that death alone can sever.
In the sweet embrace of the air forever,
Is the life of the radiant being found."

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DR. E. M. KELLOGG, of New York: I cannot, Mr. President and friends, allow this solemn occasion to pass without adding my personal tribute to the surpassing loveliness and worth of our deceased friend. It has been my good fortune to have known Carroll Dunham intimately as man and boy for over thirty-five years. We were in school together, in college together, and studied medicine together; and as I look back over this lapse of time I can see the excellent influence which he exerted upon me in my career, as he did upon all who came in contact with him. It is only since his death that I have really felt how much I owed to Carroll Dunham. I know that addresses upon the dead savor largely of eulogies, that we are expected almost as a matter of course to dwell upon their virtues, and lay out of sight their vices and shortcomings, but I can say here, in all sincerity, that during all those thirty-five years, as I review them, as I think of this long and familiar intercourse with Carroll Dunham, I cannot recollect one thing he ever said or did for which any of his friends need blush, or which he, now in his grave, would wish to have unsaid or undone. I can pay him no higher encomium than this. His life was one of spotless purity. I knew him well in all his relations, social and domestic, and I felt, and I think doubtless that you all felt the same when in his presence, that he carried with him an atmosphere of purity. He seemed to live on an upper plain, in a region of spiritual brightness. There was a freshness and vitality which seemed to emanate from him that inspired all about him. He was to my mind as near as humanity can be to a PERFECT MAN. His whole life was a life of devotion to the cause of truth, and with that was mingled so large a spirit of tolerance, so deep a respect for the opinions of others, that I believe, as far as I can recollect, I never heard an unkind criticism from him. All the tolerance he demanded for himself he was ever willing to give to others. He seemed to seek for extenuating circumstances for the wrongdoer, and the largest tolerance for the opinions of those who differed from him. It was his nature not to command antagonism, but he always commanded respect and love. He was a man of ten thousand.

I do not in these few moments intend to say anything about him as a writer, a teacher, or as an expounder and defender of

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our system. I wish, as one who knew him intimately, merely to bear my testimony to his uprightness, his integrity, his loveliness of character and his excellence in every aspect as a man.

DR. H. N. GUERNSEY, of Philadelphia: *Mr. President, and Ladies and Gentlemen:* No tribute of respect to the memory of a good man dead can be more appropriate than a retrospective view of his life. It was my pleasure to become acquainted with Dr. Carroll Dunham fifteen years ago. It occurred in this way. I had a patient, a gentleman, very dangerously sick of typhus fever. At his request, in the advanced stage of the disease, I telegraphed for Dr. Dunham to meet me in consultation in his case. The disease had taken a sudden unfavorable turn, threatening to destroy life in a few days. Dr. Dunham answered the telegram promptly and came in the next train, bringing with him his little well-worn Bœnninghausen's "pocketbook." We sat down together, and together we studied the Materia Medica, and at last settled upon a remedy—Silicia. He received Silicia 200th, of Dr. Dunham's own making, and was soon better, and made a rapid recovery. Since that time I have been in frequent communication with Carroll Dunham. Never did I see a face glow with more ardor, or a man's full affections brought out more thoroughly and well than when he was engaged in consultation over a dangerous case of sickness. He always settled the question of the remedy upon a strictly Hahnemannian basis.

So intimate had we become finally, that on his visits to Philadelphia he made my home his home. In his medical belief and conduct he was in full harmony with the doctrines of Samuel Hahnemann. He met, on one of his European tours, von Bœnninghausen, who was the contemporary of Hahnemann. After the publication of Bœnninghausen's pocketbook, and from that time up to his death, Carroll Dunham obtained from the distinguished German every note and every addition he made. He had these in his well-worn copy, flanked with his own observations, which were made in red ink. He procured a copy of this work for me, and with his own hand, I believe, copied into it the author's additions and his own notes, similar to his own copy, and sent it to me. It was, alas, a last memento, as I received it but a few months prior to his lamented death. I wish I had it with

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me, that I might show it to you. I look upon it as a precious treasure, and value it very highly. I feel that in his death I have met with a fearful loss, because he led me on so thoroughly in the path that Hahnemann had marked out for us all to follow; but I still feel his influence with me, I still feel that he is helping me on in the path I follow in the practice of homœopathy.

DR. D. H. BECKWITH, of Cleveland, O.: *Mr. President:* To comply with a request made to me by a friend of the deceased, and at the same time obey the impulses of my own personal feelings, allow me to trespass for a few moments on your time.

Only a few months since Carroll Dunham spent a day with me in the Forest City, and gave me a brief sketch of what he had done and hoped to do in the future for the profession. He was on his way to the upper lakes, where he could find a bracing atmosphere, beautiful scenery, and a quiet place in which an overworked body and brain could take a few weeks' repose, the labor which he had performed for several months previous to the Philadelphia convention having overtasked his massive brain and made rest imperative.

In the year 1873 I spent a few days with him in the eastern hemisphere. Although he came to the southern shores of Italy to recuperate, he was busily engaged in corresponding with physicians all over Europe, gleaning and gathering facts for future use, and cultivating the acquaintance of scientific men, that he might avail himself of their contributions and present them to the "World's Homœopathic Convention." His untiring energy and industry have been well rewarded. We will point with pride to the published Proceedings of 1876. The great work he performed to make the convention what it was is known only to his immediate friends and co-workers.

I may safely say that as a physician he was better known than any other member of the Institute—he was a representative man. His thorough knowledge of many different languages and his situation in life gave him advantages which but few of us possess. He was not dependent upon his profession for support, therefore he could give more study and thought to medical topics and literature than other physicians.

His medical writings, from which the profession expected so

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much, have been arrested in the midst of their progress—he has laid down the pen forever. Carroll Dunham rests from his labors, and his name has become a portion of the history of the past.

The members of the medical profession here to-day will agree with me without a dissenting voice that he was a gifted and intellectual man, one who devoted his life to his profession, studying it as a science and practicing it for the love he bore it. His prominent characteristics, always manifested at our medical gatherings, were, an unaffected modesty combined with firmness, a love of justice tempered and softened by a spirit of benevolence and liberality, a sincerity and frankness which knew no disguise. These traits made him respected in public and private life, endeared him to his friends and medical brethren. He was a valuable citizen, a devoted friend, a true physician, a scholar—and a gentleman.

With all his zeal, perseverance and social qualities, with a constitution unimpaired by age, a character so true to all nobler intuitions, and with the need of just such men in our profession, we feel sometimes that he should have been spared to us a little longer. But the Great Physician, from whom there is no appeal, has called him to the "spirit world." We submit with reverence and humility, but also with sorrow.

Dispensing on this occasion with all utterances of private grief, we unite to-day with the members of the American Institute of Homœopathy in placing high upon the roll of professional honor the name of CARROLL DUNHAM.

DR. J. C. BURGHER, of Pittsburg, Pa.: He was so well known to the profession, and his natural abilities, intellectual acquirements and moral worth were so thoroughly recognized and appreciated, that nothing I could say would increase your admiration of his character as a man, a citizen, a physician, counsellor or friend. Our loss is indeed very great, but he has been called to his reward. He was taken in the prime of his manhood, in the full vigor of his intellect, in the midst of his usefulness and in the morning of his fame. In his death a truly noble life was ended—may I not say sacrificed. It was like a brilliant flame extinguished while lighting others in the path of truth. Noble

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and magnanimious, his eloquent tongue and ready pen were a power in the land. May we all endeavor to imitate him, and emulate his virtues.

DR. F. R. MCMANUS, of Baltimore, Md.: *Mr. President and Gentlemen:* I have listened to the encomiums and the just tributes that have been offered to the memory of Carroll Dunham, all of which I, as a member of the Institute, most cordially indorse. For many years I have had pleasant service in this Institute in association with Carroll Dunham. I have engraved upon my heart, not only the pleasure of that intercourse, but the lessons of wisdom that I have received from him; lessons of instruction never to be forgotten. It would be a work of supererogation in me to detain you by saying, or offering to say, anything in eulogy of that man. We all well remember the light of genius that flashed from his eye. We all remember how in debate the thunder of eloquence rolled from his tongue. We all recollect, gentlemen, how we treasured every word he uttered; how, when he arose to answer a call, the plaudits of the Institute would be lavished upon him. I have nothing to say that can add to his credit or his goodness, his intelligence or his fidelity, or his honor as a brother and a friend. But now in regard to his memory and his love for us, I feel that I can unite with every friend that he had, with every one who was formerly with us, with every member of this Institute, in asking in his behalf of the great eternal God that he will accord to him to all eternity, as he did to Zaccheus of old, the benedictions of heaven.

DR. CLEMENT PEARSON, of Washington, D. C.: Mr. President, I am a poor flatterer. I believe Shakspeare represented Antony as saying in regard to Cæsar, "the evil that men do live after them; the good is oft interred with their bones." This is a gloomy view to take of humanity; a gloomy view to take of the ingratitude of those who may survive us. I believe sometimes Shakspeare did take a very gloomy view of human life, as when he refers to Macbeth as saying: "Out, out, brief shadow light! Out, out, brief candle! Life is but a walking shadow. The poor player that frets and struts his hour on the stage and then is seen no more; it is a tale told by an idiot, full of sound and fury, representing nothing." I am a poor flatterer, much

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less a flatterer of a man after he is gone; but I do believe the good that Carroll Dunham did will live after him. I believe very much as Lowell says:

> "Console if you will, I can bear it;
> 'Tis a well-meant alms of breath;
> But not all the preaching since Adam,
> Can make death other than death."

A few lines from Burns suggested themselves to my mind when I was sitting there, which I think express my idea very well:

> "If there's another world he lives in bliss;
> If there is none, he made the best of this."

Dr. Samuel Lilienthal, of New York: I wish to speak a few words, ladies and gentlemen, in regard to Dr. Dunham's personality. In all my intercourse with men, I never knew such another. He had a particularly delicate manner of handling delicate subjects—in consultations, for instance. In a very severe case, where I had been watching all night, I begged the lady's husband in the morning to go for Dr. Dunham. The doctor came, with his bright face and cheery smile, and after a careful examination of the patient we retired for consultation; and, as my friend Dr. Guernsey has said, we went over that well-worn Bœnninghausen's pocketbook, and he decided that I had selected the proper remedy. He told the anxious friends that I was doing the best that could be done, and that he was hopeful as to the result, and begged leave, as a favor to himself, that he might be allowed to send in a bottle of Italian wine that he thought would be grateful to the patient, "if his old friend Sam would allow it." He did not say to me, "Why don't you stimulate?" nor to the friends, "The patient needs stimulation," but he had his own gentle way of doing it, and it was a rare way indeed.

He knew very well that I worked hard, and often had bad headaches, and he often wanted me to come up to Irvington and stay with him; but he found out that I would not go anywhere when I had lectures to deliver. One day he said to me, "Sam, I want you to come up to my house, and for every night you are away I will deliver a lecture for you." I jumped at this offer,

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for I knew the class would be delighted to hear him, and accordingly I went. We had a delightful evening together, and the next day he lectured to the class, who had been informed of the arrangement, and not one member was absent.

I knew Dr. Dunham for twenty-five years. I always admired him, as we all admire a great man; but there was something more than this—I loved him. He was always fraternal; he was a good, true, faithful and conscientious physician. Let us all try to follow the example he has set us, and be true men and true and honest homœopathic physicians.

DR. CONRAD WESSELHŒFT, of Boston, Mass.: *Mr. President:* I wish to say simply that I have not a word to add to what has been so well said here. Every word here uttered will meet with a most cordial and heartfelt response in Massachusetts, where we shall always miss the clear head and generous heart of Dr. Carroll Dunham.

DR. R. LUDLAM, of Chicago, Ill.: *Mr. President and Gentlemen:* As I have already, in the Clinical Society of our hospital at home, paid my tribute to the worth of our friend, it may seem hardly necessary for me to say anything now; but I bring a last wreath and a last word to his memory. I speak only in confirmation of all I have heard said of him here, and of all that we know of his good qualities, both professional and personal. There were many traits of his character which I admired, and which, I think, gave him the great influence which he held over us, and which will be held perpetually, I hope, over the homœopathic profession in this and other countries. Some of these traits were really very rare and almost peculiar to himself. One of these I think should not be permitted to be forgotten or to fall out of view of the Institute, especially when we consider the diversity of gifts with which we are endowed, and the diversity of views which we are sure to entertain. This peculiar quality of Dr. Dunham's mind was his willingness to accord to every one that sincerity of purpose which was the spring of his own action, and to see in every one, no matter in what groove he worked, a wish and a desire to do something for the common cause. But for this I should not have been to-day a member of the Institute; but for this the little work which I

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have been privileged to do in a special department would never have been done; but for this a large influence which he exercised upon the younger members of the society when I joined would never have been exercised, I am sure.

Another trait which struck me always, was the calm and philosophic temper with which he was endowed. Whatever he said, whatever he did, was, in a certain sense, spontaneous; but never came to us in a raw, undigested form, never! There is not a single word to be found in all his writings, nor a sentence that can be remembered of his utterance, that could be called silly. In all that he has written, in all that will be resurrected from his letters, his correspondence, and from the recollections of his friends, it will be found that every utterance of his was as perfect as the workings of his own mind could make it. There was no flaw in the fabric of his thought. He never said an unkind word and never a silly one. His criticisms were always just; his voice and his face answered to the calls of human nature; they could bring the sunshine or call up the showers with each and all of us.

There was nothing meretricious about him. This was another one of his traits that calls for admiration. All of his doings, all of his writings, all of his labors were symmetrical in every part. Indeed, wherever he went, wherever he was known, he himself created an atmosphere about him by which he could be appreciated; and we all felt the better when we were in that atmosphere, for we were assimilating some of his characteristics, whether we knew it or not.

He was a man of progress, which cannot be said of all of us. This I know without enlarging upon it at all. It includes a hint to all of us that we ought to be progressive, and not imagine or fancy that we have reached the limit of human capacity. "Of all the phrases one can name, the worst is 'just about the same.'" It never could be said of Dr. Dunham, in regard to the meetings of this Institute, that he was from year to year "just about the same," in point of professional advancement.

DR. J. H. MCCLELLAND, of Pittsburg: *Mr. President:* I rise just to add one word of tribute to his memory, the tribute of the younger men of our profession. WE looked upon Car-

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roll Dunham as our counsellor and our friend, and we loved him.

DR. L. E. OBER, of La Crosse, Wis.: I rise just to say that personally there is no man on this floor has reason to remember Dr. Dunham with more gratitude than myself. I feel in accord with all that has been said, and much more, too; but in addition to what has been said, I want to say that I have venerated that man as near my Saviour as any man I ever saw on earth, for his great unselfish love for all the members of his profession, and which I have personally felt for myself.

DR. PHILO G. VALENTINE, of St. Louis, Mo.: *Mr. President:* I feel that the spirit and genius of Carroll Dunham presides here upon this occasion. I cannot be content without bringing my tribute from the far West, from beyond the Mississippi. WE have loved Carroll Dunham equal to you, gentlemen of the East, who knew him better than we. But if there is anything in this world we desire, as physicians and gentlemen, it is to imitate Carroll Dunham's life. We cannot forget his radiant, sunlit eye, and the smile that seemed to ripple over his face, whenever we were in his presence. That is my tribute, and I feel that every one beyond the Mississippi valley feels the same love for Carroll Dunham. His memory remains as bright with us as it does with you.

DR. LEWIS BARNES, of Delaware, O.: I rise before you to give utterance to one thought which I have not heard expressed here to-day. I have heard very much said about the lovely character of Dr. Dunham; I have heard very much said about his fine intellectual cultivation; I have heard that he was one of the noblest and best of men; I have heard it said that Carroll Dunham is not dead, that he is living yet to us, and that he will live in the memory of the American people as long as there is a homœopathic physician in the world. I have heard all that, but I have not heard any one say yet that Carroll Dunham *is not dead to himself.* There is an idea some people have that this world is about all there is of us; but I cannot myself think of the end of this life without thinking of the beginning of another. I cannot think that a man of fine culture, of fine intellect, of a large, great and noble heart, a man of such soul as that, when

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he crumbles to dust, I cannot think that he is all gone out. I myself feel that Carroll Dunham is alive now and is alive to himself, not in our memory alone, but just as though we had no memory at all. We may trace human life according to science or according to the good book; we may go back to the ultimate atom; we may go back to the sum and substance in which we find motion, and, as far as our science is concerned, we may say we cannot go any farther. But I rejoice to believe that there is a power above all this that will work down into this material substance, and build up there a material something as tangible and firm as these solid bones and muscles that present themselves before you to-day; and when this that you have seen has dissolved and passes away, I rejoice to believe that the man remains pure and strong, and that this cultivation so highly wrought is not for nothing. This noble heart is not for nothing but must beat forever, this intellect must shine forever, and in that fact is my consolation.

DR. O. B. GAUSE, of Philadelphia, Pa.: I have felt a conflict of emotions within the past half hour while these encomiums upon our deceased friend have been given utterance to. I have felt that I had something to say, and I felt that I did not wish to occupy your time while others who knew Carroll Dunham better wished to speak; but I could not let the opportunity pass without saying a word or two. Carroll Dunham's life will be an inspiration to me as long as I live. There are two sentences uttered by a greater than Carroll Dunham, the Nazarene, the Blessed Master. One of these is: "Blessed are the peacemakers, for they shall be called the children of God." It has been verified here by every word that has been uttered by those who have spoken, and especially by those who knew him longest and knew him best. His life and death are a verification of the sentence of the Divine Master, and it shall be an inspiration for me. He, the Divine Master, further said: "Blessed are the pure in heart, for they shall see God." I have not a particle of doubt that Carroll Dunham now sees God and rests in His presence.

DR. B. W. JAMES, of Philadelphia, Pa.: I should be very glad to have this continued, for the feeling of the Institute is unanimous in respect to the memory of Carroll Dunham, but we

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have overleaped the limit which we had set apart for the memorial session. I would therefore move, sir, that we close these exercises and go on with the regular order of business.

THE PRESIDENT: Dr. James, before we close I would like to say a word or two.

DR. JAMES: I beg pardon.

THE PRESIDENT:

While all are doing homage to this great man,
May I, your President, do the best I can.

Dunham has gone, his well-run race is o'er;
We here shall see his cheering face no more.
He, from the regions of eternal light
To which his soul has winged a cheerful flight,
Beholds the tributes that from fond hearts flow;
Beholds us overwhelmed in deepest woe.
The pearly drops that tremble in each eye
Shall gild his spirit throne beyond the sky;
In each fond heart shall live his peerless name,
And *there* shall rise his monument of fame.

THE PRESIDENT: We will now proceed with the regular order of business. The papers of the Bureau of Surgery are now before you for discussion. I would suggest, inasmuch as the business is considerably behindhand, that if these papers are to be discussed, it be done in sectional meeting.

It was then moved and carried, that the Bureau of Surgery be closed.

J. H. MCCLELLAND, M.D., of Pittsburg, Pa., was elected *Chairman of the Bureau of Surgery* for the ensuing year.

F. R. MCMANUS, M.D., then offered the following resolution:

Resolved, That the selection of time and place for the next meeting and the election of officers take place during the morning session of the third day, instead of being deferred until the last hours of the session, as laid down in the programme.

The resolution was seconded by several members.

DR. MCMANUS: I am desirous, Mr. President, that these

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important matters shall receive attention during a full meeting. Our rules of order place them not only in the last day, but near the close of all business, and it is a well-known fact that there is a very slim attendance at that time. Many members are desirous of getting to their homes, and leave this important matter in the hands of some fifteen or twenty members, instead of having it attended to in the presence of the entire body.

The resolution was then adopted.

THE PRESIDENT: The next business in order will be the presentation of the report and papers of the

BUREAU OF MATERIA MEDICA, PHARMACY AND PROVINGS.

CONRAD WESSELHŒFT, M.D., of Boston: *Mr. President, Ladies and Gentlemen:* The Bureau of Materia Medica, Pharmacy and Provings selected as a subject for this year's report Provings of Carbo vegetabilis. Its report will also include observations on triturations of Carbo, and several observations on provings and tests of reliability. The report proper of the bureau has been printed in accordance with the law of the Institute, and has been here for inspection during the session. It contains some most important points, which are worthy your consideration and discussion, and I very much regret that our business is so much behindhand. In addition to these papers, the bureau has another paper, not by a member of the bureau, but on a subject appertaining to pharmacy, viz., on the Preparation of Dilutions, by Dr. Lewis Sherman, of Milwaukee, Wis. If it be your pleasure, Dr. Sherman will read his paper. The presented report of the bureau of course need not be read, and this mass of manuscript which I hold in my hands represents the provings and experiments referred to, and would tax your time and patience too much in the reading, and, in fact, needs to be studied before being discussed.

LEWIS SHERMAN, M.D., of Milwaukee, Wis., then read his paper on *The Preparation of Dilutions.*

On motion, the report and papers of the bureau were received and referred to the Committee of Publication, and the bureau was declared closed.

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LEWIS SHERMAN, M.D., was then elected *Chairman of the Bureau of Materia Medica, etc.*, for the ensuing year.

THE SECRETARY presented the following report from the committee appointed at the session of 1876, to investigate certain alleged discourtesies to the members of the World's Homœopathic Convention at the medical department of the Centennial Exhibition.

TO THE MEMBERS OF THE AMERICAN INSTITUTE OF HOMŒOPATHY:

The committee appointed at the Twenty-ninth session of the Institute, to investigate certain alleged discourtesies to members of the World's Homœopathic Convention at the medical department of the Centennial Exhibition respectfully report that they performed the duty assigned to them, and found that the indignities complained of originated with underling attachés of the department, for which the medical director and physicians in charge were not and should not be held responsible.

BUSHROD W. JAMES,
ROBT. J. MCCLATCHEY,
PEMBERTON DUDLEY,
Committee.

On motion, the report was accepted and the committee discharged.

The Institute then adjourned to meet at eight o'clock in the evening.

EVENING SESSION.

The Institute was called to order by the President, pursuant to adjournment.

THE PRESIDENT: The first business in order this evening will be the presentation of the report and papers of the

BUREAU OF CLINICAL MEDICINE,

of which Dr. S. Lilienthal, of New York, is chairman.

S. LILIENTHAL, M.D., of New York: The Bureau of Clinical Medicine selected as a subject for report and discussion *Spinal Diseases*, a subject which has been greatly neglected by our school, and even by the old school. The members of the bureau all promised to write, but I regret to say that some of

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them have neglected to do so. We still have, however, a number of good papers on the subject selected, and one not on that subject. They are as follows:

On Chorea; by J. C. BURGHER, M.D., of Pittsburg, Pa.

Sclerosis of the Posterior Columns of the Spinal Cord—Locomotor Ataxia; by J. MARTINE KERSHAW, M.D., of St. Louis, Mo.

Chronic Myelitis; by S. LILIENTHAL, M.D., of New York.

Therapeutics of Spinal Diseases; by F. F. DE DERKEY, M.D., of Mobile, Ala.

Electricity as an Adjunct to the Treatment of Spinal Diseases; by J. H. BUFFUM, M.D., of Pittsburg, Pa.

The Principles enunciated by Samuel Hahnemann as Authority in Medicine; by HENRY N. GUERNSEY, M.D., of Philadelphia.

Dr. Burgher will read his paper, and Dr. Buffum will read his, and these will be followed by the reading of Dr. Guernsey's paper, if the Institute wishes to hear it.

DR. J. C. BURGHER, of Pittsburg, Pa., then read his paper on *Chorea.*

DR. J. C. BUFFUM, of Pittsburg, Pa., read his paper on *Electricity as an Adjunct to the Treatment of Spinal Diseases.*

DR. LILIENTHAL then related an interesting case of a young lady who had not had a natural stool for twenty months; she also had neuralgia of the womb and other symptoms. He stated that this case had been sent to him for the advice of the members, but he regarded its history as incomplete, and therefore it could not be discussed. It had also been sent anonymously.

DR. HENRY N. GUERNSEY, of Philadelphia, then, by vote, read his paper on *The Principles enunciated by Samuel Hahnemann as Authority in Medicine.*

On motion, the papers of the bureau were accepted and referred to the Committee of Publication.

THE PRESIDENT: The subjects presented by this bureau are now before you for discussion. I would suggest to you to speak promptly, briefly and to the point.

A discussion then ensued, after which the bureau was declared closed. [See Section III.]

PHILO G. VALENTINE, M.D., of St. Louis, Mo., was then

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elected *Chairman of the Bureau of Clinical Medicine* for the ensuing year.

ALTERATION OF THE BY-LAWS.

DR. LILIENTHAL: *Mr. President:* I herewith offer a report from the committee appointed yesterday morning to consider the subject of publishing the papers of the Institute, the rules now being very strict. Your committee having carefully considered the whole subject, respectfully recommend that Sections 19 and 21 of Article VII of the By-laws be stricken out. By striking out these sections the Committee of Publication will find themselves free to publish such papers as they may see fit, even though they should not be on the subject selected by a bureau.

DR. JOHN E. JAMES, of Philadelphia: I move the report of the committee be accepted.

Agreed to.

DR. J. H. MCCLELLAND, of Pittsburg, Pa.: I move that the recommendations of the committee be adopted, and the by-laws amended.

Agreed to.

DR. LILIENTHAL: Your committee likewise offer the following resolution:

Resolved, That all papers rejected by the Committee of Publication and not published with the Transactions of the Institute, be referred back to their authors by the General Secretary, to be disposed of as they may see fit.

On motion, this resolution was adopted.

SPEEDY PUBLICATION OF THE TRANSACTIONS.

T. P. WILSON, M.D., of Cincinnati, O.: *Mr. Chairman, Ladies and Gentlemen:* I beg to offer the following as a report from the committee to whom was referred Dr. Kellogg's resolution to devise some means by which the annual volume of Transactions may be gotten out promptly after the close of each session:

Your committee beg leave to report that they have carefully examined the many questions connected therewith, and would respectfully recommend the adoption of the following resolutions:

Resolved, First. That the annual dues be raised to seven dollars.

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Second, That the office of General Secretary be changed to Permanent Secretary, and the incumbent be removable for cause only.

Third. That the Permanent Secretary be paid an annual salary of one thousand dollars; and in view of the foregoing, that the Permanent Secretary be instructed to issue the Annual Proceedings within three months after the close of the session, and deliver the same without expense to each member entitled to receive them.

Signed, T. P. WILSON, Cincinnati, O, Chairman.
L. H. WILLARD, Allegheny, Pa.
GEO. A. HALL, Chicago.
O. B. GAUSE, Philadelphia.

DR. WILSON: Dr. L. E. Ober, of La Crosse, Wis., a member of the committee, dissents from a portion of this report. If the report is received, we will be able to make some further explanation in regard to it.

On motion, the report was received.

DR. WILSON: Now, Mr. Chairman, I would say that this committee has had a great deal of work on its hands to get at all the facts connected with this subject. It is very obvious to you all that a large amount of work has been done by our worthy Secretary, just for the love of it, for a number of years; and this work has been constantly increasing, and the Institute has been growing in membership. It is impossible for any one to perform the work incident to the Secretary's office without compensation, and we as a body have no right to ask for such a thing any more than our patients have a right to ask us to give them our time and talents without pay. We have been unable to find any person willing to carry the load and do the work that Dr. McClatchey has so nobly done for us, and do it as he has done it. Hence we find that it is a matter of necessity as well as of right that we should compensate the man who does the work for us. To make the whole matter shape itself, therefore, and to do as other associations have done, and as business men do, we recommend the payment of a reasonable salary to the Secretary, one thousand dollars per annum, so that he may hire as much help as he requires, if so disposed, and to meet which we further recommend the raising of the dues from five to seven dollars per annum—an increase of two dollars, which we can all stand, and for which we will be more than compensated in receiving the

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Proceedings promptly, and in knowing that the Secretary is paid for his labor; and thirdly, to give the Secretary security in his office, and to prevent all "log-rolling" and "wire-pulling" annually for this office, we elect him a permanent officer, removable only for cause.

DR. MCMANUS: I call upon Dr. Ober.

DR. L. E. OBER: I dissented from the report as presented by the committee. I am in favor of the Secretary having a salary; it is a mere act of justice, and I am in favor of doing justice to our present faithful Secretary. I certainly would be the last man on this floor to ask a man to do honest work for nothing. But I do not think it is best to make the office of Secretary permanent, and I was in favor of a term of years. Five years was the time specified.

DR. D. S. SMITH, of Chicago: I would like to have a definition of the words "for cause," the Secretary is removable only "for cause." Is it meant incompetency or inattention to business, or both?

DR. WILSON: The meaning is, that so long as the Secretary discharges the duties of his office in a proper manner, that is to say, competently and without neglect, he cannot be removed; and so long as he does this, it will not be desirable that he should be removed.

It was moved and seconded by several that the suggestions embodied in the report be adopted.

DR. LEWIS BARNES, of Delaware, O.: I move as an amendment that the Secretary's term of office be limited to five years. My reason is, that five years from now this body may be entirely different from what it is now—there will be so much new material taken in, and so much old let out, that it will hardly be the same body—and this being the case, why should we elect a Secretary for those who will come after us, and who will then be a majority. This should be thought of, in justice to them. Let us fix the term of office for a reasonable time. It should be for several years, for if we change the Secretary every year we will have our work botched. It takes considerable skill and experience to make a good Secretary, and five years is as short a time as he should be elected for. The labors of the Secretary are

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much greater than any one here who has had nothing to do with printing has any idea of. As an editor of a newspaper I have received communications from scientific and professional men who were graduates of colleges, and I do not remember more than one man who ever sent me an article that I could at once place in the compositor's hands without some overhauling. The Secretary attends to matters of this sort, and sees to it that our reports are gotten out in decent English at least. It requires both time and labor to see to that, and the Secretary should be paid, and in my opinion he should be elected for five years. A permanent secretaryship is not republican, according to my views of it.

The amendment of Dr. Barnes was seconded, and agreed to by a vote of fifty-five to forty-nine.

A MEMBER: I wish to offer another amendment to this report, and that is, that instead of increasing the annual fee to seven dollars, the initiation fee be increased to ten dollars.

THE PRESIDENT: I think that would destroy the object of the report. I am informed that the committee have recommended the increase after an actual count and comparison of figures. It is not mere guesswork, but absolute fact.

The amendment offered was then withdrawn.

THE PRESIDENT: The question will now be taken on the resolutions embodied in the report, as amended.

The resolutions as amended were then adopted by a unanimous vote.

THE PRESIDENT: We will now proceed with the regular order of business. The papers of the

BUREAU OF ANATOMY AND PHYSIOLOGY

will be presented by Dr. H. B. Van Norman.

H. B. VAN NORMAN, M.D., of Cleveland, O.: Mr. President, I have the honor to announce that the bureau I represent, in the absence of its chairman, has the following papers:

New Views on the Physiology of the Nervous System; by A. R. THOMAS, M.D., of Philadelphia.

A Study in Mental Physiology; by A. C. COWPERTHWAITE, M.D., of Nebraska City, Neb.

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Vicarious Excretion; by O. S. RUNNELS, M.D., of Indianapolis.

On Masturbation; by H. B. VAN NORMAN, M.D., of Cleveland, O.

The paper by Dr. Runnels will be read by that gentleman, and the other papers I desire to have referred without reading.

O. S. RUNNELS, M.D., of Indianapolis, then read his paper on *Vicarious Excretion.*

On motion, the papers of the bureau were accepted and referred to the Committee of Publication, and the bureau was declared closed.

H. B. VAN NORMAN, M.D., of Cleveland, was elected *Chairman of the Bureau of Anatomy and Physiology* for the ensuing year.

AMENDMENT OF BY-LAWS.

T. P. WILSON, M.D.: I find, Mr. President, on looking over our by-laws, that the resolution affecting the office of Secretary which was just adopted by a unanimous vote is in conflict with the By-laws as they now stand, and that an amendment to Article II will be necessary. I therefore move the following alterations and amendments to the By-laws, which will make Article II to read as follows:

ARTICLE II.—OFFICERS.

SECTION 1. The officers shall be elected by ballot at each annual session of the Institute (with the exception of the General Secretary, as hereinafter provided), and shall enter upon their respective duties the first day of January following.

SECTION 2. The officers of the Institute, viz., the President, Vice-President, General Secretary, Provisional Secretary and Treasurer, shall constitute an Executive Committee, which shall arrange the business of the meetings, attend to matters of business not otherwise specially provided for, and perform such other duties as may by vote of the Institute devolve upon it.

SECTION 3. The General Secretary shall be elected for a period of five years (removable only for cause), and shall be paid an annual salary of one thousand dollars.

The By-laws were then altered and amended as above by a unanimous vote.

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THE PRESIDENT: The next business in order will be the report of the

COMMITTEE ON LEGISLATION,

of which Dr. T. S. Verdi, of Washington, is chairman.

T. S. VERDI, M.D., of Washington, D. C.: I regret, Mr. President, that I am unable to present a formal written report, but the Committee on Legislation covers so large an area, the whole continent in fact, that it has been impossible for me to gather together the materials for making such a report; and of all the members of the committee there are but three present, so that it has been out of the question for us to have a satisfactory conference. There are a great many points that I should be glad to see brought to the notice of the Institute. Your committee has been working in every State in the Union where their efforts have been required. There has been and there is going to be a studied effort on the part of the allopathic school to secure such legislation as will give them a superior position and superior power, to the detriment of the homœopathic school; and the greatest amount of energy has been necessary in the past, and will be necessary in the future, to prevent such legislation. I regret to report that in some States the homœopathic school is either not alive to the importance of defeating such legislation or they are too busily engaged in internal discussions to heed it.

In order to secure harmony of action and co-operation in our school under all such circumstances, I issued a circular in behalf of the Committee on Legislation, and sent a copy to every member of the committee and obtained their assent to it. It is out of the question for this Institute to appoint representatives from every State and Territory to make up the Committee on Legislation, or to provide for any emergency that may arise. The plan that has been devised, then, to secure the best action is as follows: The chairman of the Committee on Legislation shall have power to appoint a Committee on Legislation in every State and Territory not represented on the committee, and these appointees in their States or Territories, and the members of the Committee on Legislation of the Institute in their States and Territories, shall have power to appoint county, district or special sub-com-

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mittees to keep the chairman of the Committee on Legislation of the Institute posted as to all legislation and proposed legislation likely to affect the interests of homœopathy, and to furnish him with all papers and reports of action taken in the matter for and against. By such means, if they are faithfully carried out, active measures can be taken and efforts can be concentrated at any point where an attack is threatened. All members of the Institute, also, are expected to take an active interest in these matters, which affect not only the whole body but individual members as well, and to work harmoniously and vigorously with the members of the committee. That is all I have to say, Mr. President and gentlemen, but I hope it has been sufficient to call the attention of the Institute to this very important subject.

On motion, the report of the Committee on Legislation was accepted.

T. S. VERDI, M.D., was then elected *Chairman of the Committee on Legislation* for the ensuing year.

COMMITTEE ON THE PRESIDENTIAL ADDRESS.

DR. L. H. WILLARD, chairman of the committee to which was referred the President's address, reported that the committee recommended the acceptance of the address and its reference to the Committee of Publication. On motion, the report was accepted and the committee discharged, and on further motion, the address was accepted and appropriately referred.

The Institute then adjourned, to meet at nine o'clock on Thursday morning.

THIRD DAY.

The Institute was called to order at nine o'clock, by the President.

THE SECRETARY: Mr. President, the Bureau of Gynæcology report that they have received the paper of Dr. S. R. Beckwith, of Cincinnati, on *Pelvic Cellulitis*, which they desire to have received and referred. I move that it be thus disposed of.

Agreed to.

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THE SECRETARY: You will doubtless remember that at the last meeting of the Institute, held in Philadelphia, the question was raised as to whether it was right and proper that the name of Dr. George E. Shipman should be placed on the roll of Senior Members, as was ordered by special vote at the meeting held at Put-in-Bay, he not having been a member of the Institute for twenty-five consecutive years. The matter was referred to a special committee at that time, consisting of Drs. J. P. Dake, of Nashville, Tenn., I. T. Talbot, of Boston, and Henry D. Paine, of New York. No member of this committee is present, and no report has been received from them. On their behalf I would report progress, and move that the committee be continued.

Agreed to.

HONORARY MEMBERS.

THE SECRETARY: Mr. President, at the last meeting of the Institute, held in Philadelphia, the following eminent European physicians were nominated for honorary membership in the Institute, viz.: John J. Drysdale, of Liverpool, England, Richard Hughes, of Brighton, England, and Marques de Nuñez, of Madrid, Spain. These nominations, in accordance with the rules, were laid over for one year, and now come before the Institute for action. I move you, sir, that the gentlemen above-named be declared Honorary Members of the American Institute of Homœopathy, and that they be furnished with a diploma to that effect by the General Secretary.

Agreed to unanimously.

THE PRESIDENT: We will now go on with the regular order of business. Dr. W. H. Woodyatt, of Chicago, will present the report and papers of the

BUREAU OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

W. H. WOODYATT, M.D., of Chicago: *Mr. President and Members of the Institute:* The bureau of which I have the honor to be chairman selected the following subjects: In *Ophthalmology*, Diseases of the Uveal Tract; in *Otology*, Chronic Inflammation of the Middle Ear; and in *Laryngology*, the Influence of Ton-

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sillar Hypertrophy on the Mental and Physical Development of Children. I regret to announce that Dr. Houghton, in the department of otology, and Dr. Whitney, in the department of laryngology, have, on account of sickness, been unable to furnish their papers. The other papers of the bureau on the subject selected are ready, and will be presented. In addition to these, we have a paper by Dr. C. T. Liebold, of New York, on progressive myopia, which is of sufficient importance to warrant its acceptance and publication in the Transactions. The bureau is satisfied that its papers will be of interest and satisfactory to general practitioners, as care has been taken to avoid the use of technical terms as much as possible. The papers of our bureau are as follows:

Irido-cyclitis; by T. P. WILSON, M.D., of Cincinnati.

Plastic Iritis; by W. A. PHILLIPS, M.D., of Cleveland.

Serous Iritis; by GEO. S. NORTON, M.D., of New York.

Glaucoma; by W. H. WOODYATT, M.D., of Chicago.

Astigmatism; by F. H. FOSTER, M.D., of Chicago.

Progressive Myopia in Schools, and its Prevention; by C. TH. LIEBOLD, M.D., of New York.

DR. T. P. WILSON read his paper on *Irido-cyclitis*, exhibiting and explaining a chart giving the anatomy of the parts involved. He was followed by

DR. W. A. PHILLIPS, who read his paper on *Plastic Iritis*, and also demonstrated his subject by chart.

DR. GEO. S. NORTON then read his paper on *Serous Iritis*, and was followed by

DR. W. H. WOODYATT, who read his paper on *Glaucoma*.

These papers, and the remaining papers of the bureau, were, on motion, accepted and referred to the Committee of Publication. The bureau was then by vote declared closed, there being no discussion.

GEO. S. NORTON, M.D., of New York, was then elected *Chairman of the Bureau of Ophthalmology, Otology and Laryngology* for the ensuing year.

F. R. MCMANUS, M.D., *Chairman of the Board of Censors*, then made the final report of the Board, by which a number of

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new members were admitted. (See *Complete Report of the Board of Censors.*)

DR. MCMANUS: *Mr. President:* At the meeting in Philadelphia last year, one of the applications that came before the Board of Censors was from Dr. L. B. Couch, of Nyack, N. Y. The admission of the applicant was objected to by Dr. Samuel A. Jones, upon the ground that the applicant had been guilty of fraud in issuing a proving of Picric acid. The President, Dr. Carroll Dunham, referred the matter to a special committee, consisting of Drs. B. F. Joslin and Henry D. Paine, of New York, to take testimony and report at this session of the Institute. The Secretary has the report of this committee, and I call upon him to read it.

THE SECRETARY then read the following report:

TO CARROLL DUNHAM, M.D., PRESIDENT AMERICAN INSTITUTE OF HOMŒOPATHY:

The undersigned, appointed by you a committee to hear charges preferred by S. A. Jones, M.D., against L. B. Couch, M.D., and the replies thereto, report that they fulfilled the duty assigned them, heard the parties in action, and examined papers submitted by them.

The charge was "Fraud" in connection with a lethal proving of Picric acid upon a dog. Dr. Jones presented a paper calling attention to physiological incongruities in the reported effects of the poison, and which made him suspect something wrong. He then detected in two reports of the poisoning incompatibilities on which he based his charge of "Fraud." After careful examination of the original papers, it is the judgment of the undersigned that the incompatibilities pointed out are the result of a clerical error.

They therefore report that the charge of fraud is not sustained.

B. F. JOSLIN, M.D.
HENRY D. PAINE, M.D.

December 4th, 1876.

THE SECRETARY stated that in a conversation with Dr. H. D. Paine, that gentleman stated that Dr. Joslin and himself were of the opinion that Dr. Couch should be elected a member of the Institute, and that by a special vote the Secretary should be directed to date his membership back to 1876 in the list of members, as an act of justice to Dr. Couch.

On motion, Dr. L. B. Couch, of Nyack, N. Y., was thereupon elected a member of the Institute, and on further motion, the

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Secretary was instructed to date his membership from the year 1876.

D. S. SMITH, M.D., of Chicago: I move, Mr. President, that we now take up the special order of business for this morning's session, which is the selection of a time and place for our next meeting, and the election of officers for the ensuing year.

Seconded by several members.

T. P. WILSON, M.D., of Cincinnati, objected to a consideration of these matters at present. He thought that as the election of officers and selection of a place of meeting had been put down in the order of business for the last day of the session, that order should be adhered to. After some discussion

DR. W. H. WATSON, of Utica, N. Y., moved a reconsideration of the vote by which the order of business had been changed, which was not agreed to.

THE PRESIDENT: We will now proceed to select a place for the next meeting of this Institute.

DR. LEWIS SHERMAN, of Milwaukee, in behalf of the Homœopathic Medical Society of the State of Wisconsin, invited the Institute to meet in Milwaukee, as he had been instructed by the society to do so, and moved that the Institute meet in that city.

D. S. SMITH, M.D., of Chicago, seconded the motion of Dr. Sherman, and eloquently referred to the claims of the West for the meeting of the Institute.

O. S. RUNNELS, of Indianapolis, invited the Institute to meet in Indianapolis, and insured a warm welcome there.

DR. C. G. HIGBEE, of St. Paul, Minn., on behalf of the Minnesota State Homœopathic Medical Society, invited the Institute to meet at St. Paul.

DR. W. H. JENNY, of Kansas City, Mo., invited the Institute to meet at that place.

DR. T. J. PATCHEN, of Hot Springs, Ark., advocated the claims of Milwaukee.

DR. D. H. BECKWITH, of Cleveland, spoke warmly in favor of meeting in Indianapolis.

THE SECRETARY: I have in my hands, Mr. President, two communications, inviting the Institute to meet at certain places. One is from the proprietors of the Put-in-Bay House, Put-in-Bay

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Island, Lake Erie, and the other from an ex-President of the Institute, Dr. J. J. Youlin, of Jersey City, N. J., inviting us to meet at Long Branch, N. J.

After some discussion, the President put the question as to Put-in-Bay, and it was chosen as the place for the next meeting, and the third Tuesday in June was subsequently selected as the time of meeting.

ELECTION OF OFFICERS.

The Institute then proceeded to elect officers for the ensuing year, with the following result:

President.

J. C. BURGHER, M.D., ...	Pittsburg, Pa.

Vice-President.

J. C. SANDERS, M.D., ...	Cleveland, O.

General Secretary.

ROBERT J. MCCLATCHEY, M.D., . .	Philadelphia.

Provisional Secretary.

JOSEPH C. GUERNSEY, M.D., . . .	Philadelphia.

Treasurer.

EDWIN M. KELLOGG, M.D., . . .	New York.

Censors.

F. R. MCMANUS, M.D., ...	Baltimore.
D. S. SMITH, M.D., ...	Chicago.
T. J. PATCHEN, M.D., ...	Hot Springs, Ark.
R. B. RUSH, M D., ...	Salem, O.
THOMAS MOORE, M.D., ...	Philadelphia.

A motion was made to reconsider the vote by which Put-in-Bay was selected as the place of meeting for the next session of the Institute.

Not agreed to.

The motion to reconsider was subsequently renewed, and was ruled out of order by the Chair. An appeal from the decision of the Chair was taken, and upon a division of the house the Chair was sustained.

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THE PRESIDENT then called for the report and papers of the Bureau of Psychological Medicine, but the consideration of the papers of the bureau was postponed until the next day.

BUREAU OF MICROSCOPY.

C. P. ALLING, M.D., of Dunkirk, N. Y., presented the papers of the bureau, as follows:

Cell Life; by O. P. BAER, M.D., of Richmond, Ind.

Histological Elements; by J. D. BUCK, M.D., of Cincinnati, O.

Microscopy of the Blood; by C. P. ALLING, M.D., of Dunkirk, N. Y.

DR. ALLING stated that this was all the papers of the bureau, and that he would not delay the Institute by reading any of them.

On motion, the papers of the bureau were accepted and referred to the Committee of Publication.

The bureau was then declared closed.

C. P. ALLING, M.D., was then elected *Chairman of the Bureau of Microscopy* for the ensuing year.

THE PRESIDENT announced the construction of a number of bureaus, as reported by their chairmen.

The Institute then adjourned, to meet on Friday morning at eight o'clock.

FOURTH DAY.

THE PRESIDENT called the meeting to order promptly at eight o'clock.

THE SECRETARY presented a letter received from Henry M. Smith, M.D., of New York, chairman of the

BUREAU OF ORGANIZATION, REGISTRATION AND STATISTICS,

in which it was stated that that bureau had done nothing during the year, and had, therefore, no special report to make.

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On motion, the statement was accepted, and the bureau was continued for the ensuing year.

THE SECRETARY presented an additional paper of the Bureau of Pædology, which was accepted and referred to the Committee of Publication.

THE SECRETARY stated that the Board of Censors had no further report to make.

THE SECRETARY presented a brief statement on behalf of the senior members, which was on motion accepted and referred.

THE SECRETARY announced the receipt of a work on *Mushrooms as Causes of Disease*, by Dr. W. Albert Houpt, of Chemnitz, Saxony, and read the following letter:

"CHEMNITZ, SAXONY, May 9th, 1877.

"DEAR DOCTOR:

"I have forwarded to you to-day, by post, my little work on 'Mushrooms as Causes of Disease,' and would thank you very much if you would be kind enough to hand it to the American Institute of Homœopathy.

"With best compliments I remain, dear sir,

"Yours, truly,

"ALBERT W. HOUPT.

"To DR. R. J. MCCLATCHEY, Philadelphia."

THE SECRETARY then stated that the work of Dr. Houpt was very interesting and valuable, and in reply to a question, said that copies of it could be obtained through Boericke & Tafel. Dr. Houpt, he said, would doubtless be remembered as representing Germany at the World's Homœopathic Convention, in conjunction with his colleague, Dr. Clotar Müller.

On motion, the book of Dr. Houpt was accepted, and the Secretary was directed to signify to Dr. Houpt the thanks of the Institute for his kindly remembrance.

INTERCOLLEGIATE COMMITTEE.

S. LILIENTHAL, M.D., of New York, made a statement in behalf of the Intercollegiate Committee to the effect that although the committee had had no formal meeting, very free and full expressions of opinion had been exchanged between its members. He would report that all were decidedly in favor of a three years

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graded course, which should be regarded as the minimum of time necessary for even the rudiments of a medical education, and that practical teaching should receive more attention. In addition to this, the faculties were unanimous in admonishing the profession in regard to accepting students. Send good students and the colleges will make good graduates of them; men fit to practice medicine, to become members of this Institute and to be a credit to a learned profession. This point is of more importance than any other. Let it be seen to that a young man or woman who wishes to enter a physician's office and study medicine has, *at least*, a good common-school education; more than this will be better, such as a knowledge of Latin and the modern languages, but with this they can get along. Send the colleges good material and it will be well used; but if students are sent who have been too dull and stupid to acquire even a common English education, be assured that they will be dull and stupid still, and if they graduate at all it will only be *cum dei gratia*. The experience has been that the students who are well educated, who are graduates of literary institutions, are willing and anxious to take the three years' graded course, which is at present not obligatory, and do not consider it too long a time for study; but the "lunkheads" think two years too much, and are willing to get through at any time and in any way, so that they can get a diploma and get off into the field of practice. This is the report of the Intercollegiate Committee—a three years' graded course and good students.

C. G. HIGBEE, M.D., of St. Paul, Minn.: If I understand this report, it is that students shall be required to attend three full courses of lectures before they can graduate. I am decidedly opposed to this plan. There are many students who are well-educated men, and who wish to study and practice medicine, and yet while they are doing so are obliged to work at some trade or other business for support. If these men can pass a satisfactory examination after two courses, or even after one, why not give them a diploma? I would make it obligatory upon them to attend one course, and as many more as their circumstances would permit.

DR. O. B. GAUSE, of Philadelphia: Do I understand Dr.

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Higbee to advocate graduating students after one course of lectures?

THE PRESIDENT: I think the idea Dr. Higbee wishes to convey is, that if a student can pass a preliminary examination in a satisfactory manner, he shall be admitted to the graduating course.

DR. GAUSE: In the fifteen or sixteen years that I have been connected with a college, I have never seen but one student who could pass the examination necessary to be admitted to the third course without having attended the previous course, and he had very superior advantages.

DR. HIGBEE: If they are not competent, do not pass them.

DR. GAUSE: I see no reason for making a provision for such an exceptional case, and thereby opening an avenue for fraud, perhaps. Let us look after the proper education of ninety-nine one hundredths of the students who come to us for instruction.

DR. LILIENTHAL: The rare individual of whom Dr. Higbee has spoken can apply to the Board of Examiners of the University of New York, and get a diploma from them if he is competent.

DR. HIGBEE: I have given expression to my own views, simply. I believe that many worthy men will be shut out from the profession by the adoption of the three years' course.

DR. GAUSE: Then let them be shut out; "the greatest good for the greatest number" should be our motto.

DR. HIGBEE: I know of my own knowledge that good men will be shut out.

DR. GAUSE: We in Philadelphia are very anxious to do all we can to educate good students. We believe that when the legislatures of the several States decreed that students shall be allowed to graduate after two courses of lectures, they meant to name the minimum of time and instruction necessary to secure a passable medical education, and not the maximum. In two courses of five months each, with intervals of six or seven months between, and all the time that can be devoted to study in a preceptor's office, the student is in no danger of learning too much. In the two courses at the college, a student scarcely has time to dissect more than two or three "parts." He cannot possibly get up the regional and surgical anatomy of the whole body in that

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time, and he will be just as deficient in other branches. Now this is not what we want. The time is past when we should be content to fit out men to treat scarlatina and measles; we want them to know so much when they leave the college walls that they are fit to practice in any department of medicine, and fit to come here as members of this Institute, and talk intelligently and intelligibly on any subject that may come before them. I suppose if some men would tell the truth, they would say that they look upon the Institute as an important supplement to the colleges, and that they come here to be instructed in matters that they should have learned all about in the colleges, but could not because of want of time.

The time is coming that men who are over thirty years old, or who are engaged in other business, will not think of studying medicine; they will find out whether "the Lord has called them" to this work earlier in life than that, and thus most of our students will be young men fresh from schools, academies and colleges. For these we must have good schools and a high standard of medical education; and if we have, this class of students will be sent direct to homœopathic colleges, instead of taking, as is too often the case now, a first course in an allopathic school, under the mistaken notion that the allopaths are more thorough in their instruction. I use the word mistaken advisedly, for I fully believe and say, without partisanship or prejudice, that while our colleges may differ from each other in degree and kind, they do not do so more than those of the old school, and the best of our colleges are equal to the best of the old-school colleges in any and every respect, with, perhaps, the exception of hospital facilities, and their faculties are fully the equals of those of the old school.

I am not opposed to men of middle age, or who are engaged in other business, starting into the medical profession. On the contrary, I do all I can to help such men along, and am now educating such a person. But we must prepare ourselves for advanced education and take advanced steps; we must, at all events, keep up with the progress of the times. Because a man starts in with the cares of a family and scarcity of time and money, colleges cannot afford to consider that, although they may make

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it a rule to help such individuals all they can. In Philadelphia we have provision for this class of students, and we do all we can to help them; but we cannot lower our standard of requirements for any case. On the contrary, we look to the Institute to encourage us in all our efforts to raise the standard of medical education, and not only this, but to say to us constantly, Come up higher.

DR. LILIENTHAL: The colleges call upon the Institute for support, and one of the best ways in which that can be given will be for the members to see to it that no student comes to us to be instructed who is not properly educated.

DR. GEO. A. HALL, of Chicago: I think I understand Dr. Higbee's position, and I sympathize with his feeling. I am willing to admit that occasionally there is a young man who seems to be possessed with a special aptitude for acquiring medical knowledge, and with a special fitness for the medical profession, and such a one may be in a condition to pass examinations and be admitted to the graduating class and graduate in a single course, but such cases are very exceptional; and while I am willing to admit that such men may be found, I am not near so willing to admit that they should be allowed to graduate, for the reason, if no other presented, that it would be a precedent established that might lead to all sorts of complications and difficulties. Every beardless youth who has a good memory, good retentive power, may absorb all he hears, and apply for a final examination at the end of a single course, and answer as many questions as the second or third course students. But is such a student fit to graduate and go out into the world and practice? In Chicago they take timber and pass it through what they call a process of seasoning; it has the resemblance of sound and seasoned timber on the surface, and it is put into buildings as such; but by and by we see the rack and ruin that comes from such poor work. We have had a bitter experience of this in our city. Just so it would be with such students as I have described. Send them into the field and you will soon find that they are not practitioners; they have not had engrafted upon them observation, experience and practical tact and judgment, and these are only obtained by time and study of other

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things than books and lectures. We have had young men ask permission to be examined with the graduating class, and we have permitted them to be examined. In many instances they have had to be marked as high as the best of the graduates, but we did not let them pass; we did not give them a diploma, because we regarded them as lacking in the essential elements of a medical practitioner. In our college we regard ten years of practice as equal to one course of lectures. Men come to us who have been practicing without a diploma for ten years, and we graduate them after a single course if they can pass a satisfactory examination. They may not have the "book learning" of the regular students, nor be able to answer as many questions as they do, but we look upon their ten years practical experience as worth a great deal, and regard them as safe. I do not defend the practice, but on the contrary regard it as pernicious; and I fully indorse all that Professor Gause has said regarding the bringing into the profession a higher order of physicians, a better class of students and of graduates.

Dr. Jas. W. Haines, of Waynesfield, O.: I have had some experience in five medical colleges. During the past year I have been lecturing at the Pulte Medical College of Cincinnati. Fifteen years ago, when I first commenced the study of medicine, the standard of medical education was low in all colleges, homœopathic and allopathic, so far as my observation went. Since that time, and especially quite recently, a vigorous attempt has been made to elevate that standard. The great trouble the colleges have to contend with is, that preceptors seem to take almost anything that comes in their way as medical students. Here is where there is need of reform. If physicians would decline to have anything to do with young men who wish to study medicine unless they were properly educated and had a good degree of intelligence and smartness, that alone would raise the standard of medical education at once. The colleges can take care of themselves if they get good students. Last year at Pulte College two-thirds of the graduating class were graduates of literary institutions, and these men stood at the head of the class. Their example was a good one for the others, who went to their homes determined to return with better literary education than they

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had had before. I have frequently declined to take office students because of their lack of education, and have advised them against attempting to study medicine without it. In general my advice has been taken, and these men have studied for four or five years and then came up to attend lectures with satisfaction to themselves and to all concerned. Some of these were poor men, such as Dr. Higbee spoke of; men who had to earn their living while they studied.

DR. CLEMENT PEARSON, of Washington, D. C.: The gentleman who has just spoken seems inclined to censure preceptors pretty severely. I have learned to-day that one of the recent graduates of Pulte Medical College stated that I was his preceptor. I used to be his family physician when he was raising corn on the prairies of Iowa, but he never studied with me a day, or an hour. He spoke to me about studying medicine, and asked to become my student, but I positively declined to have him, and discouraged him all I could. I did not think him fit for it. I find now that he attended two full courses at Cincinnati and graduated, and I suppose the college made the most they could out of the stuff they had. I merely make these remarks in self-defence; I don't want to be charged with being that man's preceptor.

On motion of DR. MCMANUS the discussion was closed.

THE PRESIDENT: The next business in order will be the presentation of the papers of the

BUREAU OF PSYCHOLOGICAL MEDICINE.

T. L. BROWN, M.D., of Binghamton, N. Y., chairman of the bureau, announced the following papers:

Two cases of Acute Mania; by JAS. W. HAINES, M.D., of Waynesville, O.

The Distinctive Verified Symptoms indicating the Choice of the Remedy in Acute Mania; by TITUS L. BROWN, M.D., of Binghamton, N. Y.

On motion, these papers were accepted and appropriately referred, and the bureau was declared closed.

On motion of Dr. T. L. Brown, SELDEN H. TALCOTT, M.D.,

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of Middletown, N. Y., was elected *Chairman of the Bureau of Psychological Medicine* for the ensuing year.

THE PRESIDENT: The next business will be the presentation of the report and papers of the

BUREAU OF GENERAL SANITARY SCIENCE, CLIMATOLOGY AND HYGIENE.

T. S. VERDI, M.D., of Washington, D. C., presented the report of the bureau. He greatly regretted that he had but a single paper to present, although others had been promised. The one paper had been prepared by himself, and he would read it.

DR. VERDI then read his paper entitled *Boards of Health, their Scope and Power.*

DR. B. W. JAMES, a member of the bureau, stated that he had a paper in course of preparation on the climatology of various parts of the country, but he had not presented it because it was incomplete. He found it a very difficult matter to gather the desired information from some quarters. He had, however, been working in this field for some time, and hoped to be able to present to the Institute at its next meeting something valuable and reliable. He therefore wished to be continued on the bureau, that he might complete his work.

DR. R. LUDLAM: I feel, Mr. President, that although we are in the last hours of the session, we should not pass over the excellent paper of Dr. Verdi without some discussion, or at least without some recognition of its excellent qualities. It is a very valuable and instructive paper. The opinions which it advances, and which are so plainly expressed, I most heartily indorse. I have never served on a regular "Board of Health," but I have had some experience similar to that of Dr. Verdi. In Chicago, one morning, some sixty thousand people found themselves without homes, food or clothing. Winter was coming on, the weather was bad and the prospect was that we would have a very sickly season. The great charities of the world were coming in so fast that we hardly knew how to dispose of what we got. The old "Relief and Aid Society" was revivified and reorganized for the

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purpose of dispensing to those who needed. Part of its machinery was a medical board, of which I was invited to become a member—the only *quack* on the board—by the leading old-school physicians of Chicago.

Well, the point I want to make, without any personal reference to myself, is this, that I suddenly found myself in a position where my services were required in a great emergency, and I had to do the best I could. I believe, seriously, that we are on the point of falling heir to a great many positions of trust and responsibility, which will come upon us some morning before we are aware of it almost; just as the New York Ophthalmic Hospital fell into our hands almost without the knowledge of the profession. We must be prepared for such positions and such emergencies, and we want just such papers as that of Dr. Verdi; they should be written and read, digested and assimilated, and then we will be prepared for such trusts.

I have another point I wish to make, and which is in confirmation of the position taken by Dr. Verdi in his paper. The small-pox was prevailing in Philadelphia and other cities; it had reached Buffalo, and we already had a few cases in hospital. A large proportion of our people were unvaccinated; a great many would refuse to be vaccinated because of prejudice against it; we were not in a good sanatary condition in any way, and here was a prospect of one scourge coming on the heels of another and devastating our already sufficiently scourged city. Well, the medical board decided that after a certain date no person could receive food, clothing or assistance of any kind unless he or she would agree to be vaccinated. Through the energy of one man a supply of virus was obtained, and the result was a pretty thorough vaccination of the population, and especially of those most exposed, and a meeting and defeat of the threatened epidemic, so that we had but a very few cases of small-pox in the city. All classes of people came for aid; the very best citizens had to take their baskets and go for food, fuel and clothing; merchants, lawyers, doctors, clergymen, judges and all grades and distinctions of society. Sometimes persons came for help and went away empty-handed two or three times rather than be vaccinated; but they all had to succumb under the painful pressure of hunger and

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want. I fully believe this arbitrary action saved Chicago from a calamity worse than the great fire.

DR. T. P. WILSON: I am very much pleased with the paper of Dr. Verdi. Now this paper, being one of general interest to the profession and even the public, should go out early on the wings of the press, and I would like to see it made exceptional in this respect. I intend to move, at the close of my remarks, that the Secretary be authorized to allow the journals free use of it, for I regard it as a representative paper of its kind, and one that is calculated to do much good, if read and properly heeded. There is one point in it which the author has just touched upon, and which I wish to refer to. We are proud of our civilization, and we wish to see it advancing, so that we may receive the greatest amount of pleasure, the best health and the longest life. Now, when I think of the sanitary condition of our great cities, I feel as though our civilization can go no further; that it is on the point of crystallization unless a radical change takes place. You will doubtless be surprised when I tell you that it is my opinion that the great bar to the improvement of the health of cities is that noble animal the horse. Abolish the horse from cities, do away with paved streets, and consequently dust and mud, lay out your streets in grass-plots, garden-walks, and flower-beds, and do such work as is now done by the horse by machinery, and you will have healthy cities. Send the horse to where the cows have gone, and to where I wish heaven would send the dogs and cats, and a city will be an earthly paradise, where it will be a comfort to live by day and night.

I now make the motion, Mr. President, that the Secretary allow the journals the privilege of printing Dr. Verdi's paper.

Agreed to.

DR. O. S. RUNNELS, Indianapolis, Ind.: We will no longer regard as a fable the creation of Dr. Richardson, who describes a place called Hygeia, from whence a large proportion of the diseases to which flesh is heir are abolished, and the death-rate is reduced to a minimum. But there seems to be a forgetfulness of the fact that all who are born must die. Still there is a large class of diseases—the zymotic—which may be looked upon as in a large degree preventable, and vital statistics, such as those compiled by

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our friend Dr. Verdi, of the Washington Board of Health, show this fact very plainly. These diseases sweep away populations, rob us of our children, and carry death and sorrow into every community. For these reasons, and because we know these foes of humanity to be preventable, such papers as Dr. Verdi's become of inestimable value, and we should all give earnest heed to the points they present. The people look to us not merely to cure them when sick, but to save them from disease; and while we know that all must die, we also know that human health can be improved, happiness increased, and life lengthened by sanitary science.

On motion of Dr. Lilienthal, the discussion was closed.

D. H. BECKWITH, M.D., of Cleveland, Ohio, was elected *Chairman of the Bureau of General Sanitary Science, Climatology and Hygiene* for the ensuing year.

THE PRESIDENT announced the construction of several bureaus.

THE PRESIDENT: I have received the following communication from Dr. Lewis Sherman, of Milwaukee:

TO THE PRESIDENT OF THE AMERICAN INSTITUTE OF HOMŒOPATHY:

I respectfully resign the position of *Chairman of the Bureau of Materia Medica, Pharmacy and Provings*, to which I was elected, and nominate, in my stead, Dr. Conrad Wesselhœft, of Boston, Massachusetts.

LEWIS SHERMAN.

On motion, Dr. Sherman's resignation was accepted.

On motion, Conrad Wesselhœft, M.D., of Boston, Mass., was elected chairman of the bureau.

THE PRESIDENT: So far as the permanent bureaus and committees are concerned, the business of the session is concluded. We will now proceed with other business.

THE ORDER OF BUSINESS IN FUTURE.

THE SECRETARY: I have here, Mr. President, a report from the Bureau of Organization, Registration and Statistics, which reads as follows:

The Bureau of Organization, Registration and Statistics would respectfully make the following recommendations:

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That the Committee of Arrangements, in preparing the order of business for future meetings of the Institute, be requested to set apart a certain time for hearing reports from delegates of institutions and societies who may be present at the meetings, such reports to be limited to five minutes each.

The Bureau would also recommend, that in future the Committee on Credentials be discontinued, and that the duties heretofore performed by that committee be performed by the Bureau of Organization, Registration and Statistics.

All of which is respectfully submitted.

On motion, the report was accepted, and on further motion, the recommendations of the bureau were adopted as standing resolutions.

COMMITTEE ON CREDENTIALS.

T. FRANKLIN SMITH, M.D., of New York, *Chairman of the Committee on Credentials*, then submitted the report of the committee, as follows:

LAKE VIEW, June 29th, 1877.

TO THE AMERICAN INSTITUTE OF HOMŒOPATHY.

GENTLEMEN: Your Committee on Credentials would respectfully present the following report:

There are in attendance 104 members. The different States are represented as follows:

Arkansas,	1
Connecticut,	4
District of Columbia,	2
Delaware,	1
Illinois,	11
Indiana,	8
Iowa,	1
Maryland,	1
Massachusetts,	2
Minnesota,	1
Missouri,	8
Michigan,	1
New Jersey,	1
New York,	81
Ohio,	15
Pennsylvania,	23
Wisconsin,	3
Total,	104

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The following States are represented by delegates:

Connecticut.

G. H. WILSON, M.D.

Delaware.

CHARLES H. LAWTON, M.D.

Indiana.

O. S. RUNNELS, M.D.
J. R. HAYNES, M.D.

Iowa.

W. BANCROFT, M.D.

Minnesota.

C. G. HIGBEE, M.D.

Missouri.

PHILO G. VALENTINE, M.D.

New York.

W. H. WATSON, M.D.
T. L. BROWN, M.D.
T. FRANKLIN SMITH, M.D.
C. ORMES, M.D.
EDWIN WEST, M.D.
A. K. HILLS, M.D.
E. D. JONES, M.D.
AUSTIN W. HOLDEN, M.D.

Ohio.

R. B. JOHNSON, M.D.
W. A. PHILLIPS, M.D.

Pennsylvania.

THOMAS MOORE, M.D.
CORRESTA CANFIELD, M.D.
J. C. BURGHER, M.D.
B. W. JAMES, M.D.
J. H. MCCLELLAND, M.D.
C. P. SEIP, M.D.
J. H. BUFFUM, M.D.
I. B. CHANTLER, M.D.
L. H. WILLARD, M.D.

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Wisconsin.
T. J. PATCHEN, M.D.
LEWIS SHERMAN, M.D.

Medical societies are represented as follows:

Allegheny Anatomical Society, Pa.
J. C. BURGHER, M.D.

Allegheny Materia Medica Club, Pa.
J. H. BUFFUM, M.D.

Allegheny County Society, Pa.
C. P. SEIP, M.D.

Boston Medical Society, Mass.
C. WESSELHŒFT, M.D.

Homœopathic Medical Society of Eastern Ohio.
R. B. RUSH, M.D.

Worcester County Homœopathic Medical Society, Mass.
FRANCIS BRICK, M.D.

Chautauqua County Homœopathic Medical Society, N. Y.
M. J. LINCOLN, M.D.

Western Academy of Homœopathy.
E. C. FRANKLIN, M.D.
T. P. WILSON, M D.
C. H. VILAS, M.D.

Philadelphia County Homœopathic Medical Society.
H. N. GUERNSEY, M.D.

Hahnemann Club of Philadelphia.
C. S. MIDDLETON, M.D.

The following institutions are represented, as follows:

Philadelphia Homœopathic Hospital.
R. J. MCCLATCHEY, M.D.

Children's Homœopathic Hospital of Philadelphia.
J. E. JAMES, M.D.

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Chicago Half Orphan Asylum.
S. P. HEDGES, M.D.

New York Ophthalmic Hospital.
GEORGE S. NORTON, M.D.

Harlem Homœopathic Dispensary, N. Y.
THOMAS FRANKLIN SMITH, M.D.

New York Homœopathic Medical College.
E. M. KELLOGG, M.D.
S. LILIENTHAL, M.D.

Middletown Insane Asylum, N. Y.
S. H. TALCOTT, M.D.

New York College for Women.
S. LILIENTHAL, M.D.

Hahnemann Medical College of Philadelphia.
O. B. GAUSE, M.D.

The following periodicals are represented:

Hahnemannian Monthly.
R. J. MCCLATCHEY, M.D.

Medical Advance.
T. P. WILSON, M.D.

The following members are in attendance:

ADAMS, MRS. J. A. D., M.D., Corry, Pa.
ALLING, C P., M.D., Dunkirk, N. Y.
ALLEN, H. C., M.D., Toledo, O.
BROWN, T. L., M.D., Binghamton, N. Y.
BURGHER, J. C., M.D., Pittsburg, Pa.
BEEBE, E. W., M.D., Evansville, Wis.
BARKER, WM., M.D., Waukegan, Ill.
BECKWITH, D. H., M.D., Cleveland, Ohio.
BARNES, L., M D., Delaware, O.
BUFFUM, J. H., M.D., Pittsburg, Pa.
BISHOP, H. M., M.D., Norwich, Ct.
BRICK, FRANCIS, M.D., Worcester, Mass.
BANCROFT, W., M.D., Keokuk, Iowa.
BIGGAR, H. F., M.D , Cleveland, O.
BENNETT, A. M., M.D., Rochester, N. Y.
CHANTLER, I. B., M.D., Sewickley, Pa.
COUCH, A. S., M.D., Fredonia, N. Y.
CURTIS, R J., M.D., Mayville, N. Y.
CONNER, MRS. D. T., M.D., New Haven, Ct.
COOK, E. G., M.D., Chicago, Ill.
CHILDS, O. D., M.D., Akron, O.
DAKE, B. F., M.D., Pittsburg, Pa.

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DUNN, J. L., M.D., Titusville, Pa.
DUFF, P. S., M.D., Great Belt, Pa.
EATON, J. ALBRO, M.D., Brooklyn, N. Y.
EVANS, A. J., M.D., Lockport, N.Y.
FRANKLIN, E. C., M.D., St. Louis, Mo.
FULTON, H.W., M.D., Pittsburg, Pa.
FRAZIER, J. B., M.D., Connelsville, Pa.
FANNING, T. C., M.D., Tarrytown, N. Y.
GEPPERT, J. P., M.D., Cincinnati, O.
GAUSE, O. B., M.D., Philadelphia, Pa.
GUERNSEY, H. N., M.D., Philadelphia, Pa.
GROSVENOR, SAMUEL L., M.D., Chicago, Ill.
GILBERT, J. R., M.D., New York City.
HALL, G. A., M.D., Chicago, Ill.
HIGBEE, C. G, M D, St. Paul, Minn.
HEDGES, S. P., M.D., Chicago, Ill.
HUTCHINS, H. S., M.D., Batavia, N. Y.
HAYNES, J. R., M.D., Indianapolis, Ind.
HAINES, J W., M.D., Waynesville, O.
HILLS, A. K., M.D., New York City.
JONES, E. D., M.D, Albany, N. Y.
JOHNSON, R. B., M.D., Ravenna, O.
JENNY, W. H., M.D., Kansas City, Mo.
JAMES, B. W., M.D., Philadelphia, Pa.
JAMES, J. E., M.D., Philadelphia, Pa.
KELLOGG, E. M., M.D., New York City.
LILIENTHAL, S., M.D., New York City.
LUDLAM, R., M.D., Chicago, Ill.
LUNGREN, S. S., M D., Toledo, O.
LINCOLN, W. J., M.D., Olean, N.Y.
LAWTON, C. H., M.D., Wilmington, Del.
LEWIS, F. PARK, M.D., Buffalo, N.Y.
MORGAN, C. R., M.D., Philadelphia, Pa.
MCCLATCHEY, R. J., M.D., Philadelphia, Pa.
MCCLELLAND, J. H, M.D., Pittsburg, Pa.
MOORE, THOMAS, M.D., Germantown, Pa.
MCMANUS, F. R., M.D., Baltimore, Md.
MIDDLETON, C. S., M.D., Philadelphia, Pa.
MCDERMOTT, G. C., M.D., Warren, Pa.
NORTON, G. S., M.D., New York City.
OBER, L. E., M.D., La Crosse, Wis.
OCKFORD, G. M., M.D., Hackensack, N. J.
ORMES, C., M.D., Jamestown, N. Y.
PENFIELD, S., M.D., Danbury, Ct.
PATCHEN, T. J., M.D., Hot Springs, Ark.
PETTET, J., M.D., Cleveland, O.
POND, J. W., M.D., Meadville, Pa.
PIERSONS, A. M., M.D., New York City.
PEARSON, C, M.D., Washington, D. C.
PHILLIPS, W. A., M.D., Cleveland, O.
RUSH, R. B., M.D., Salem, O.
ROBINSON, S. A., M.D., Laporte, Ind.
ROBERTS, W. P., M.D., Olean, N Y.
RICE, A B., M D., Panama, N. Y.
RUNNELS, O. S., M.D., Indianapolis, Ind.
SHERMAN, LEWIS, M.D., Milwaukee, Wis.
SEIP, C. P., M.D., Pittsburg, Pa.
SMITH, D. S., M.D., Chicago, Ill.
SMITH, T. FRANKLIN, M.D., New York City.
SANDERS, J. C., M D., Cleveland, O.
SUMNER, C., M.D., Rochester, N. Y.

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SMITH, ST. CLAIR, M.D., New York City.
SCHNEIDER, N., M.D., Cleveland, O.
SPEAKMAN, RACHEL J., M.D., Battle Creek, Mich.
TERRY, M. O., M.D., Utica, N. Y.
TALCOTT, S. H., M.D., Middletown, N. Y.
VALENTINE, P. G., M.D., St. Louis, Mo.
VON TAGEN, C. H., M.D., Chicago, Ill.
VERDI, T. S., M D., Washington, D. C.
VAN NORMAN, H. B., M.D., Cleveland, O.
VILAS, C. H., M.D, Chicago, Ill.
WILSON, T. P., M.D., Cincinnati, O.
WESSELHŒFT, C, M.D, Boston, Mass.
WILLARD, L. H., M.D., Allegheny, Pa.
WATSON, W. H., M.D., Utica, N.Y.
WARD, J. F., M.D., Jamestown, N. Y.
WEST, E., M.D., New York City.
WILSON, G. H., M.D., West Meriden, Ct.
WOODYATT, W. H., M.D., Chicago, Ill.
WRIGHT, A. R., M.D., Buffalo, N.Y.
WOODS, M. A. B., M D., Erie, Pa.
HOLDEN, A. W., M.D., New York City.

The Committee on Credentials respectfully call the attention of the Institute to the defective nature of their report. Notwithstanding your committee have endeavored to secure a complete report, and have made frequent appeals from the platform, they are aware that a number of institutions, etc., represented here by delegates, are not mentioned, simply because of the failure of these delegates to respond. A report of this nature should include all the colleges, hospitals, dispensaries, journals, societies, etc., of the country, and should fully represent the status of the homœopathic school for the year.

All of which is respectfully submitted.

T. FRANKLIN SMITH,
C. H. VON TAGEN,
S. A. ROBINSON,
Committee on Credentials.

On motion, the report was accepted, and referred to the Committee of Publication.

A PETITION.

THE PRESIDENT: Gentlemen, under the head of new business, I announce to you that in my official capacity as President of this Institute I have received the following petition:

TO THE HONORABLE PRESIDENT OF THE AMERICAN INSTITUTE OF HOMŒOPATHY:

We, the undersigned, members of the American Institute of Homœopathy, in view of the growing feeling in favor of changing the place for the

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next meeting of the Institute from Put-in-Bay to Milwaukee, and in order to promote fraternal feeling among the members present, hereby respectfully petition your honor to recommend or permit a reconsideration of the action taken during the session.

This petition, gentlemen, I find is signed by seventy-seven members of the Institute, a very large majority of those who have attended the session. Now, so far as a reconsideration of this matter is concerned, the Institute will please remember that the majority voted to hold the next meeting at Put-in-Bay; that a reconsideration of this vote was moved, and was voted down; that a motion to reconsider was again made, and was ruled as out of order by the Chair, and that an appeal from the decision of the Chair was taken, and the majority sustained the Chair. Now in Roberts's *Rules of Order*, which is considered a standard work upon parliamentary law, it is stated very emphatically that no question can be twice reconsidered. Your President is very sorry indeed that he cannot carry out the prayer of the petition, and permit a reconsideration, but he must be governed by the law, and this Institute must be governed by the law. If we reconsider and reconsider again, no business can be legitimately transacted or carried out, and no legislation can ever be regarded as completed. But the right to petition is a sacred matter. In reading the views of a distinguished writer upon parliamentary law, I find that he says: "The great purpose of all rules and forms is to subserve the will of the assembly rather than to restrain it; to facilitate, and not to obstruct, the expressions of their deliberate sense." It would seem that now, notwithstanding all previous action, seventy-seven members of this Institute are desirous of holding the next meeting in Milwaukee, instead of at Put-in-Bay, and I am willing and anxious to get at the "deliberate sense" of this assembly. It must be plain to you all that a reconsideration of the vote is out of the question, but there may be another way of getting at this matter, by which the sense of the body can be obtained by vote, and the question of place opened up. The Chair has been informed that, in voting on the question of place, some votes were cast for Put-in-Bay by persons who are not members of the Institute, and who had therefore no right to vote. If that is the case, the action of the

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Institute might be declared null and void, and new action might be taken. I suggest this as a means of opening up the question in a legitimate manner.

A MEMBER: If illegal votes were cast, they were cast on both sides. It was "six of one and half a dozen of the other."

DR. T. P. WILSON: The vote was taken by the members rising, and the Secretary counted. I should think that our Secretary knows who are members and who are not.

DR. T. S. VERDI: It seems to me, Mr. Chairman, that there is a way of getting at this question in a plain and straightforward manner, and without raising the question of unlawful voting, which is not at all likely. There seems to be an opinion that if the vote had been taken on Milwaukee first, the Institute would have voted to go there next year. Now I contend that the Chair was in error in putting the question on Put-in-Bay first. The Secretary informed the President that it was the custom to take a vote on the place first presented; the Chair ruled that Put-in-Bay was first presented, because the Secretary had a written invitation in his hand from that place, and addressed the Chair in order to make it public; but the Chair did not recognize the Secretary, and did recognize Dr. Sherman, who presented the claim of Milwaukee. Now I contend that the Chair erred in presenting Put-in-Bay first, because the fact that the Secretary had the invitation in hand, and stood and addressed the Chair, did not bring the invitation before the house, because the Chair recognized another person who named another place, and the Secretary, courteously giving way to one after another, really introduced the Put-in-Bay matter at the last, or nearly so.

THE PRESIDENT stated that he was perfectly willing to have the matter decided in that way, as he was anxious only to see the members satisfied. If he erred in taking the vote on Put-in-Bay first, let the Institute so decide and declare the whole action null and void. If, however, the vote should be the other way, he hoped there would be no more of it, as it would certainly look like an attempt on the part of a minority to defeat the will of the majority.

After some further discussion, Dr. Verdi moved that the action of the Institute in selecting Put-in-Bay as its place of meeting

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be declared null and void, in consequence of error on the part of the Chair in presenting that place first instead of Milwaukee.

DR. T. P. WILSON moved to lay the matter on the table.

Not agreed to.

After some further discussion the vote was taken on Dr. Verdi's motion, and it was not agreed to. The vote to meet at Put-in-Bay in 1878, was therefore declared legal.

T. P. WILSON, M.D.: I move, Mr. President, that the salary voted the Secretary be paid from this time on, commencing July 1st, 1877. The term of office of the officers according to the By-laws, commences January 1st, after their election. Our Secretary would be obliged under this rule to do six months' work without pay, and hence I offer this resolution.

Agreed to unanimously.

DR. CONRAD WESSELHŒFT: Mr. President, I wish to say a word. Yesterday Dr. Lewis Sherman was very properly chosen as Chairman of the Bureau of Materia Medica, etc. I learn to-day that he has very generously resigned in my favor, and that I have been elected. I wish to express my thanks, and to assure you that I shall continue to serve the Institute to the best of my humble ability.

VOTES OF THANKS.

DR. B. W. JAMES: Mr. President, I offer the following resolution:

Resolved, That the thanks of this Institute are due and are hereby tendered to the members of the Chautauqua County Homœopathic Medical Society, and especially to Drs. Cornelius Ormes, of Jamestown, A. S. Couch, of Fredonia, and C. P. Alling, of Dunkirk, for their unremitting kindness and attention to the members of the Institute.

Agreed to.

T. P. WILSON, M.D.: I offer the following resolution:

Resolved, That our thanks are due the press of this neighborhood, and especially the *Jamestown Journal*, for courtesies extended to this Institute, and to the journal above named for the able manner in which our proceedings have been reported.

Agreed to.

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DR. B. W. JAMES: I desire to offer the following resolution:

Resolved, That the thanks of this Institute are eminently due and are hereby tendered our President, E. C. FRANKLIN, M.D., of St. Louis, Mo., for the able, impartial, courteous and dignified manner in which he has presided over the sessions.

The question was taken by the Vice-President, Dr. T. P. WILSON, and was unanimously agreed to, with applause.

DR. THOMAS MOORE, of Philadelphia: I offer the following resolution:

Resolved, That the thanks of this Institute are due and are hereby tendered the officers of the Association for the faithful performance of their duties.

Agreed to.

DR. R. LUDLAM moved a vote of thanks to DR. SELDEN H. TALCOTT, Superintendent of the Middletown (N. Y.) Insane Asylum, for an invitation to visit that institution.

Agreed to.

The Institute then adjourned, to meet at Put-in-Bay on the third Tuesday in June, 1878.

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COMPLETE REPORT OF THE BOARD OF CENSORS.

BARNES, LEWIS, M.D., Delaware, O.,	Cleveland Med. Coll., 1852.
BARRETT, ALBERT R., M.D., Nashville, Tenn.,	University of Nashville, Med. Dep., 1877.
BEEBE, CLARENCE E., M. D., New York,	University of N. Y. City, Med. Dep., 1873.
BELLOWS, HOWARD P., M.D., Boston, Mass.,	Boston University School of Med., 1877.
BRANSTRUP, WILLIAM T., M.D., Vincennes, Ind.,	Eclectic Med. Coll., Cincinnati, 1858, and Hah. Med. Coll., Chicago, 1877.
BUTLER, JOHN, M.D., New York,	Dublin Coll. Phys. and Surgs., 1864.
CARLETON, BUKK, M.D., Ward's Island, N. Y.,	N. Y. Hom. Med. Coll., 1876.
COUCH, ASA S., M.D., Fredonia, N. Y.,	Hom. Med. Coll. of Penna., 1855.
COUCH, LEWIS B., M.D., Nyack, N. Y.,	N. Y. Hom. Med. Coll., 1874.
DAKE, WALTER M., M.D., Jackson, Tenn.,	Hah. Med. Coll., Philadelphia, 1877.
DEADY, CHARLES, M.D., New York,	N. Y. Hom. Med. Coll., 1876.
EATON, J. ALBRO, M.D., Brooklyn, N. Y.,	Pulte Med. Coll., Cincinnati, O., 1876.
EASTMAN, FRANK, M.D., Nashville, Tenn.,	Hah. Med. Coll., Philadelphia, 1877.
ELY, CHARLES T., M.D., New York,	N. Y. Hom. Med. Coll. 1877.
FRANTZ, JACOB T., M.D., Wilmington, Del.,	Hah. Med. Coll., Philadelphia, 1876.
GEPPERT, JAMES P., M.D., Cincinnati, O.,	Pulte Med. Coll., Cincinnati, O., 1877.
GRIVEAUD, EMANUEL A., M.D., St. Louis, Mo.,	St. Louis Coll. Hom. Phys. and Surgs., 1871.
HOLDEN, AUSTIN W., M.D., New York,	Albany Med. Coll., 1847.
LEWIS, F. PARK, M.D., Buffalo, N. Y.,	Pulte Med. Coll., Cincinnati, O., 1876.
LYON, OLIVER J., M.D., Harrison, O.,	Pulte Med. Coll., Cincinnati, O., 1875.
MANSFIELD, CHARLES J., M.D., Meriden, Conn.,	N. Y. Hom. Med. Coll., 1869.
MARTIN, ARELLO S., M.D., Randolph, N. Y.,	Cleveland Med. Coll., 1870.
MURPHY, EDMUND A., M.D., New Orleans, La.,	Hom. Med. Coll. of Missouri, 1866.
OKIE, WILLIAM T., M.D., Washington, D. C.,	Jefferson Med. Coll., Philadelphia, 1861.
PAINE, NATHANIEL E., M.D., Albany, N. Y.,	Albany Med. Coll., 1876.
PENFIELD, SOPHIA, M.D., Danbury, Conn.,	N. Y. Med. Coll. for Women, 1869.
POND, JOHN N., M.D., Meadville, Pa.,	Cleveland Med. Coll., 1865.
QUIRELL, CLAUDIUS A., M.D., Cincinnati, O.,	Pulte Med. Coll., Cincinnati, O., 1877.
RICE, ALVIN B., M.D., Panama, N. Y.,	Bellevue Hosp. Med. Coll., N. Y., 1867.
ROBERTS, WILLIAM P., M.D., Olean, N. Y.,	Hah. Med. Coll., Chicago, 1876.
SPEAKMAN, RACHEL T., M.D., Battle Creek, Md.,	Cleveland Med. Coll., 1863.
TUCKER, SAMUEL GILES, M.D., New Shoreham, R.I.,	Hah. Med. Coll., Philadelphia, 1865.
VILAS, CHARLES H., M.D., Chicago, Ill.,	Hah. Med. Coll., Chicago, 1873.
WALDO, HOWARD L., M.D., West Troy, N. Y.,	University State of New York, 1875.
WANSTALL, ALFRED, M.D., New York,	N. Y. Hom. Med. Coll., 1875.

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LV.

TREASURER'S REPORT.

DR. E. M. KELLOGG, TREASURER, IN ACCOUNT WITH THE AMERICAN INSTITUTE OF HOMŒOPATHY. CR.

To Cash—Assessments,	$165 00	By cash paid for Printing, per Carroll Dunham, M.D.,	$270 97
" Sale of Publications,	159 86	" " Bureau of Registration,	84 81
" World's Convention Fund,	89 00	" " Lithographing Certificates,	45 00
" Dues and Initiations,	3145 00	" " Engrossing Certificates,	15 00
		" " Miscellaneous Printing,	14 00
Receipts in 1876–77,	$3558 86	" " Postage and Stationery,	96 25
Balance in hand, July, 1876,	2510 89	" " Expressage, Collecting, etc.,	82 75
Interest,	75 32	" " Phonographer,	265 00
		" " General Secretary for printing, binding, lithographing, postage, clerical help, expressage, etc.,	2546 65
	$6144 57		$3320 43
		Balance in hand,	2824 14
			$6144 57

AUDITORS' REPORT.

The Auditing Committee report that they have examined the accounts and vouchers of the Treasurer, and find them correct.

Attest: JOHN E. JAMES,
PHILO G. VALENTINE,
E. DARWIN JONES,
Auditors.

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LVI.

NECROLOGICAL REPORT.

By Henry D. Paine, M.D.,

Necrologist.

As no report from this department was made at the last session of the Intitute, the mortuary record now presented covers a period of two full years, and consequently contains a longer list than usual of our recently deceased associates.

Information has been received within that interval of the death of twenty more members of the Institute, including several who have been connected with it from its very organization, and some have been recognized as leaders among us, or as most valuable coadjutors.

Though we cannot contemplate these additions to the gradually lengthening catalogue of our departed colleagues without a feeling of sincere regret, in many cases rendered more poignant by sentiments of admiration and friendship resulting from years of associated labor in a common cause, we have much reason for thankfulness that, considering the extent of our membership the annual losses are numerically so few, and if it is further borne in mind that of the thousand or more members of whom we boast, many are well advanced in life, and all are engaged in arduous and even in perilous duties, it cannot but be a matter of surprise, as well as of mutual congratulation, that the death-rate among us continues so low.

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CARROLL DUNHAM, M.D.

President of the American Institute of Homœopathy and of the World's Homœopathic Convention of 1876.

No event in the history of homœopathy in this country has produced so profound an impression, or awakened such universal regret, as the death of this eminent and estimable physician.

Justly regarded by his colleagues, not in America only, but in Europe also, as one of the most able, accomplished and zealous expositors of the Hahnemannian reform in medicine, and possessing, in a remarkable degree, the confidence of the entire homœopathic profession, his loss is universally felt as a public bereavement.

To the American Institute of Homœopathy, of which he was the honored and efficient president during the last year of his life, and during the most eventful year of its existence, his loss is well-nigh irreparable. Ever prompt, conscientious and thorough in the performance of every duty, he was the one man who could always be depended on when others failed, and whose example of systematic industry was an invaluable incentive to all. He not only assisted largely and efficiently in the work of the society himself, but did much by way of encouraging others, especially the younger members, to maintain and increase the value and interest of its transactions. Too modest to assume the leadership which by general consent was conceded to him, he did not shrink from accepting its duties and responsibilities. The extraordinary energy, tact and judgment that he displayed in organizing and successfully carrying through the great Homœopathic Convention of last year, its comprehensive plan and judicious settlement of details, and the dignity, courtesy and perfect impartiality that marked his conduct in the presidential office, elicited the spontaneous and universal tribute of admiration.

The hopes that all indulged of still more and greater benefits to the cause of homœopathy in the future from a long continuance of his wisely directed efforts, were suddenly dispelled by the news of his decease on the 18th of February last, at his

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residence in Irvington on the Hudson, in the forty-ninth year of his age.

It is an additional cause of regret that this sad event was in some degree due to the physical exhaustion consequent upon his excessive and protracted exertions in connection with the World's Convention.

Dr. Dunham was born in New York, in 1828. His father, Mr. Edward W. Dunham, was a substantial and prosperous merchant of the old school, of strictest integrity, exact and methodical in his business transactions. A friend of learning and himself a man of culture, he gave his son the advantages of a complete education. During the cholera epidemic of 1834, Carroll, then six years old, had the misfortune to lose his mother, and was himself very near falling a victim to the prevailing sickness. Soon after this, the family removed to Brooklyn, and at a proper age he was sent to an excellent boarding school. At fifteen he matriculated at Columbia College, from which he graduated with honor in 1847. Even as a school-boy he was of a quiet, studious disposition, more given to reading than play, especially of the rough and noisy sort. This tendency of his mind became still more marked during his college course, but his reserve had in it no tinge of moodiness, for he was naturally and always of a peculiarly cheerful and friendly disposition.

After leaving college, in accordance with his father's preference and his own tastes, he began the study of medicine, placing himself as a pupil under the direction of Dr. Whittaker, an old-school physician of much repute as a trainer of medical students. Having been relieved of a trying illness by homœopathic treatment, he determined to investigate the claims of the new school, and did so during the whole course of studies, becoming in the end a confirmed adherent of its principles and practice.

In this decision he was confirmed by his father, who had also, from observation and personal experience of its advantages, been fully converted to homœopathy.

Young Dunham, however, did not on this account in the least relax his diligent study of the doctrines and practice of the dominant school, but attended with the assiduity characteristic of him the course of instruction afforded by the New York

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College of Physicians and Surgeons and by the various clinics to which he had access.

Soon after receiving his degree of doctor of medicine, in 1850, he went to Europe, partly for the purpose of general medical and scientific improvement, but especially with the design of studying in the land of its birth the methods and results of the homœopathic practice as compared with those of the best allopathic treatment.

In pursuance of this double plan, he visited Dublin, where he served a term as interne in the lying-in hospital, Paris, Vienna and other centres of medical science. He seized every opportunity of observing, with a discrimination beyond his years, the different kinds of treatment in hospitals and private practice. Proceeding to Münster, the residence of Dr. Von Bœnninghausen, he became an assiduous pupil of that distinguished practitioner, daily attending at his office, and making careful and elaborate notes of the cases that he saw, their treatment and the results.

Having thus profitably spent a year in the diligent prosecution of his mission, he returned home fully persuaded of the truth of the great therapeutic principle propounded by Hahnemann, and an ardent admirer and disciple of that master. During the period of his absence he had not only satisfied himself of the substantial verity of the fundamental dogmas of homœopathy, but had acquired already a considerable knowledge of its materia medica, a department for which he seems to have had a particular aptitude, and in which, as we all know, he has for years been considered an authority. His familiarity with the effects of drug action upon the human system was something marvellous to those who have given the most attention to that difficult branch of medical science.

Immediately after his return from abroad, Dr. Dunham commenced in Brooklyn the practice of the profession for which he had made such protracted and conscientious preparation, and in which he subsequently became such a shining light. Unlike the majority of young physicians, the pecuniary rewards of practice were not necessary to his support, while the uncertain state of his health, never very robust, and subject to occasional lapses, might

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to a less enthusiastic or to a less conscientious person have seemed a sufficient reason for declining the labors and responsibilities of this arduous vocation, but inspired by noble and humane motives, and stirred by a generous enthusiasm, he did not feel at liberty, nor had he any desire, to rest satisfied with the theoretical and abstract knowledge he had gained, but sought to make it practical for the benefit of the sick and suffering, and to enlarge and extend the beneficent reform in the value of which he held the most implicit faith.

After practicing four or five years in Brooklyn with good success, notwithstanding some interruptions from sickness—in one instance extending over several months—it was deemed necessary for sanitary reasons to take a vacation. He again went to Europe, and a second time spent several weeks in Münster, renewing his studies with Bœnninghausen, and passing the greater part of every day with him. The winter was passed in Italy, where he acquired the Italian language, and reviewed his studies in anatomy.

On his return to Brooklyn, he showed a tendency to disease of the throat, and consequently removed to Newburg, on the Hudson, where for a time he enjoyed better health, and soon attracted to him a numerous body of intelligent and devoted adherents.

But again the exigencies of his varying health compelled a change after a six years' occupancy of that attractive field. He visited the West Indies and other foreign parts in search of health or relief. Finally, he became a resident of the beautiful and picturesque village of Irvington on the Hudson, where he continued to reside until his death. He passed much time, however, in New York, both before and after his removal to Irvington, keeping an office there and attending to professional calls as his health and strength allowed.

His last voyage to Europe, on which he was accompanied by his whole family, and which was undertaken in the fall of 1874, seemed to many of his friends so hopeless of benefit that they scarcely dared to anticipate his return. He seemed to have doubts of his own recovery, as previously to his departure he resigned from all positions of trust or responsibility, and ar-

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ranged his affairs with reference to an indefinite sojourn abroad. Happily, however, the result of this absence of about one year was so much more favorable to his health than was expected that he came back at the end of that time greatly improved in strength and spirits, and apparently able to resume with renewed activity his former occupations.

Some time before his last enforced departure, as early, indeed, as 1871, at a meeting of the American Institute of Homœopathy, Dr. Dunham announced a proposal for holding an International Congress of the disciples of Hahnemann on the occasion of our American Centennial jubilee in 1876. The idea was received with enthusiasm, and a committee was appointed, of which, of course, he was chief, to make the preparatory arrangements and secure, if possible, the co-operation of homœopathists in other countries. The history of that unprecedented gathering will be a lasting and glorious memorial of the zeal, foresight and self-sacrificing devotion of its originator. None but those most intimately associated with him in the work can justly estimate the amount of labor and anxiety it cost him, and none will be more ready than they to ascribe the entire credit of its success to his masterly management. Even when obliged to seek abroad, with small encouragement, for the health that he could not long retain at home, he did not lose sight of this grand and favorite project, but used every opportunity during his stay in Europe to enlist the sympathies of foreign physicians in its behalf.

So general and hearty have been the manifestations of sorrow and of tender and affectionate regard for the memory of our friend, at home and abroad, and so well understood among us were the admirable qualities of his head and heart, that an extended eulogy is scarcely necessary. It is the less so in this connection, because the Institute will, doubtless, at this its first session since the deplored event, desire to express by some appropriate and united action its estimate of his superior merit and its grateful sense of the obligations resting upon the whole homœopathic fraternity for his very important and valuable labors.

It is a subject of congratulation for those who are to come after us, and especially to the rising generation of physicians, that they will have an opportunity to profit by his writings, and to

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study to their benefit the lessons of his pure and useful life. Friendly hands, it is announced, are already gathering the most important of his widely scattered contributions to medical literature into a permanent volume, to be supplemented, it is to be hoped, with a comprehensive memoir.

Dr. Dunham was a facile and agreeable writer, clear in his statements and felicitous in expression. His writings were chiefly contributions to the medical journals of his own school, and comprise some of the most lucid and convincing expositions extant of the doctrines and practice of homœopathy. From 1860 he was, for three years, editor of the *American Homœopathic Review.*

In 1865 he accepted the Professorship of Materia Medica in the New York Homœopathic Medical College, a position that he filled for several years with great success. During the latter part of his incumbency he was also dean of the college, which by his administration was completely reorganized and established upon a permanent and prosperous basis.

As one of the original incorporators of the *New York State Homœopathic Asylum for the Insane,* he earnestly labored for the foundation of that, the first institution of the kind in the world. At different times his services were invoked in various official positions of responsibility in the numerous societies and institutions that were so fortunate as to enjoy his co-operation, in all of which, small as well as great, it was a matter of conscience with him to perform the duties faithfully. Whatever was to be done he did at once; he was never unprepared, nor ever late. And yet while so ready and apt himself, he was always lenient and even helpful towards his tardy or inefficient associates, not unfrequently supplementing their defects in the most quiet and unobtrusive way. While president of the New York County Homœopathic Medical Society, he always went to the meetings with some scientific papers, "papers concealed about his person," ready to be brought forth in the case of the failure of any appointed essayist.

With a large and well-balanced mind, a clear and discriminating judgment, a great store of learning gathered from books and observation, with definite views on most questions of human

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interest, he combined a wonderful simplicity and purity of character and an amiable and cheerful disposition. While his public discourses were models of clear and concise argumentation, the richness and sprightliness of his ordinary conversation made him the charm of the social and domestic circle.

Such is a brief and imperfect sketch of our late associate and friend, whose whole life presents a record of deeds deserving of grateful remembrance, and of virtues worthy of our emulation.

SAMUEL BANCROFT BARLOW, M.D.

From the foundation of this society till within a few years past, this venerable and, in some respects, remarkable man was one of the most regular and prominent attendants of its annual sessions. He was present at and participated in the organzation of the Institute. His face and voice were familiar to all the older members. For several years his advanced age and physical infirmities have precluded his personal presence from our assemblies, but he seldom allowed a meeting to pass by without sending some communication or report, either to the Institute or to the body of his co-seniors. For several years he prepared most of the obituary notices of our deceased members, and was, perhaps, better acquainted with the personal history of his older colleagues than any other of our number. The friendly service which he so often rendered to the memory of those who preceded him to "the other shore" it is now, alas, his turn to receive.

Dr. Barlow was born in Granville, Mass., April 19th, 1798. He received a good common school and academic education, but a propensity for gathering knowledge in unusual and out of the way fields, that showed itself even in boyhood, constantly stored his mind with a great fund of information on subjects not included in the ordinary curriculum of teaching. He was always fond of antiquarian and obscure subjects, of which his memory was an immense storehouse. This tendency of his mind led him to take up the study of anatomy and questions connected with medicine while yet a lad. It is related of him that even at that early period of life he acquired a considerable knowledge of the medicinal virtues of many plants, and that he sometimes

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gave advice and treatment to the sick. From sixteen to nineteen he taught school, and at the same time continued his zealous, but rather erratic, method of self-education. In 1819 he regularly commenced the study of medicine, and had for his preceptors, during the three years of his apprenticeship, Dr. Vincent Holcomb, of Granville, and Dr. J. F. Jewett, of Granby, Conn. He graduated as Doctor of Medicine from the Medical School of Yale College, in 1822.

He followed his profession in New England for ten or twelve years with satisfactory success, but without any noteworthy incidents that have come to the writer's knowledge. In 1834 he received the compliment of an honorary degree from the Berkshire Medical College, and in that or the following year removed to Florida, Orange Co., N. Y., where he soon acquired an extensive practice.

It is not certainly known when the attention of Dr. Barlow was first arrested by the innovations of the homœopathic system. It is not likely that a subject presenting so many lines of divergence from the plane of orthodox medical thought would long escape the scrutiny of a mind so given to bold and curious investigation as his; and it is probable that he had been quietly examining the claims and peculiarities of the new method for some time before he gave any indication of the drift of his study. But it appears that as early as 1837, and within two or three years after his removal to Orange County, he was openly practicing homœopathy. At that early period, however, he was not apparently so familiar with its various applications as to feel warranted in prescribing unassisted in all cases. While perfectly assured of the substantial validity of the fundamental principle, he still lacked that thorough knowledge of the homœophatic materia medica that can alone satisfy the conscientious practitioner, and which is only to be acquired by a long course of study. During this period of transition, it was his habit, in cases of doubt, to take counsel of Drs. Hull, Vanderburg or Curtis. Few men of our school, however, have been more expert in this department of medical science than Dr. Barlow afterwards became.

About 1841 he removed to New York City, where he con-

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tinued to reside and practice for the rest of his life, enjoying throughout the profound respect and high regard of the profession.

In 1863 he was appointed Professor of Materia Medica in the New York Homœopathic Medical College, a position that he filled acceptably for eight or nine years. During a part of that incumbency he was also President of the Faculty. He was a member of many medical and other scientific societies, and was highly honored as a gentleman of much and varied learning. He was a liberal contributor to the periodical literature of the profession. Socially he was a most agreeable companion, possessing ready conversational ability, with just enough eccentricity of manner to make his society all the more entertaining.

About four years previous to his death Dr. Barlow suffered from a severe and protracted illness, occasioned, as was supposed, by a sunstroke. After his recovery, which was slow and incomplete, he virtually retired from active practice—a repose to which his age and long services fairly entitled him, but his advice and counsel were much sought, especially by the junior members of the profession, whom he always treated with much affability and consideration.

His death, which occurred on Sunday, February 27th, 1876, resulted immediately from an attack of inflammation of the brain. He was seventy-eight years of age. His funeral, which was celebrated in the Rev. Dr. Rogers's Reformed Church, Fifth Avenue, was attended by a great concourse of sorrowing friends, including many of his professional brethren of New York and neighboring cities.

RICHARD GARDINER, M.D.

The venerable subject of this notice was one of the oldest and most highly respected homœopathic physicians of the United States. He was born February 21st, 1793, in Darby, Delaware County, Pa., and died in Philadelphia, on the 22d of March, 1877, having entered upon his eighty-fifth year. For more than sixty years he followed the vocation of a medical practitioner. Full of honor as of years, he has gone to his rest, and his mem-

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ory will long be held in dutiful and affectionate regard by thousands who are allied to him by ties of kindred or grateful recollections of tender and faithful services rendered. Not only was he a notable example of the ideal type of the true physician, but he deserves honorable mention for having given to the profession two sons and no less than five grandsons. He was the father of the late Professor William A. Gardiner—in his day one of the most able teachers of anatomy in the country—and also of our colleague, Dr. Daniel R. Gardiner, of Woodbury, N. J. He was himself, also, the son of a prominent physician of his native place, who was his tutor and guide during his preparation for medical honors. His early education was obtained at the common schools, but his habit of close application and his receptive mind enabled him to turn his defective opportunities to the best account. He graduated as doctor of medicine at the University of Pennsylvania, in 1814, and the same year succeeded to his father's practice in Darby. While attending medical lectures in Philadelphia, he was in the habit of driving to the University from Darby, a distance of eight miles, every morning, and back at night. He practiced in his native place for fifteen or sixteen years, after which he removed to the neighboring city of Philadelphia, where he soon secured a firm foothold, and ultimately a large and remunerative practice.

About a year after his settlement in Philadelphia, he announced his acceptance of and belief in the foundation principles of homœopathy, which he had begun to investigate before his removal from Darby. He was not at all obtrusive or noisy in his advocacy of the new system—such demonstration was foreign to his nature—but he was none the less clear and decided in his faith.

He continued in active practice in Philadelphia till 1870—forty-two years—when, having reached the mature age of seventy-seven, he thought it time to make a change. He removed to Baltimore, which city seemed to offer a favorable opening for practice, with the intention of establishing himself there. The experiment appears not to have proved satisfactory, for after a brief absence we find him back in his old position, as diligently pursuing his accustomed duties as ever. And there he steadily

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remained, keeping up his regular routine of daily work until within a few days of his death. His final illness was so sudden and sharp, and his suspension from business so brief before the end came, that he may be said to have died in the harness.

Dr. Gardiner was a man of stalwart frame, a vigorous and sturdy constitution, and an intelligent and open countenance, which was an index of the sincere and guileless character within. He had few words, but what he said was always to the point, and marked by good, strong sense. He was, withal, an exemplary and humble Christian—a member, for many years, of the Baptist Church.

The sickness to which he finally succumbed was pneumonia. At a special meeting of the Philadelphia County Homœopathic Medical Society, held shortly after the decease of this venerable member was announced, a memorial service was held, resolutions of sorrow and respect were adopted, and a delegation of its members were appointed to act as pallbearers at the funeral.

As is well known, he was one of the original members of the Institute, and also of various affiliated associations.

WILLIAM E. PAYNE, M.D.

Among the distinguished representatives of homœopathy in New England, the name of Dr. William E. Payne stands pre-eminent, and by his death the Institute, of which he was one of the first founders, loses one of its most useful members.

He was a native of Maine; born in the town of Unity, Kennebec County, November 25th, 1814; graduated at the Bowdoin Medical College, in the class of 1837. During his attendance at this school he performed the duties of Demonstrator of Anatomy. Immediately after his graduation he settled in Bath, Me., where he always lived, and where, in the course of the first three years, he acquired a good and rapidly increasing patronage. But the frequent failure of the dogmatically announced theories of the books induced him to look about for more light to guide him in the cure of the sick. In 1839 he procured a copy of Hahnemann's Organon, which he read and studied with lively interest. This was followed by the procuring of some remedies,

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which he frequently tested successfully upon cases which, according to the received and accredited prognosis of the old school, were incurable. As he went on experimenting with homœopathic remedies upon his patrons, his allopathic brethren heard of it, and came down upon him with all the bitterness, narrow-mindedness and animosity of those of our own day, and he consequently made the stand he had about determined upon a short time before he had terminated his experiments. He carried with him, however, his already acquired patronage over to homœopathy, and his practice rapidly increased.

He was the first to permanently establish himself in homœopathic practice in the State of Maine. He had read carefully whatever he could find in those early days upon the subject of homœopathy, and was a diligent student of the provings of Hahnemann. He believed and applied the principle of *similia similibus curantur*, so far as he was able, with the greatest care and accuracy, believing it to be the only true and exemplified law of cure. He did not accept, however, all the theories propounded by the great master as to the origin and nature of disease, but in so far as the applicability of remedies is concerned he was a firm believer and conscientious practitioner.

He was corresponding member of the Pennsylvania Homœopathic Medical College, honorary member of the Massachusetts Homœopathic Medical Society, member of the Central Bureau for the Augmentation of the Materia Medica, one of the founders of the American Institute of Homœopathy, and President of the same in 1851, Professor of the Institutes of Medicine in the Boston University School of Medicine, etc. He was the author of several valuable published papers and monographs on medical subjects; also of the yet unpublished *History of Homœopathy in Maine*. He held many positions of trust and confidence in the State and city in which he lived, and refused the mayoralty of his adopted city because he believed that no physician could devote his time to matters outside of his profession without detriment to the interests of his patients.

He proved and arranged the provings of several of our valuable additions to the Materia Medica, among which are Lilium tigrinum, Polygonum hydropiper, etc. The characteristic indi-

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cations for many remedies, *e. g.*, Corallium rubr. in hooping-cough, Mercurius acet. in tenesmus vesicæ, Iris vers. in sciatiaca, Rana bufo in epilepsy, and others, have been determined by his careful observations.

Dr. Payne's final illness was a very distressing and painful one. It was immediately preceded by an attack of pneumonia, from which he so far recovered in the course of a fortnight that he made a visit to Boston. The day of his return to Bath he was exposed to a cold, searching wind, and was taken, while at supper, with the violent symptoms known as *angina pectoris*, and in addition, evident indications of an extensive pneumonia involving nearly the whole of the left lung. He lived nineteen days after this, and suffered during the whole time from repeated attacks of violent pain in the chest, extending to both arms. The cough was very distressing and accompanied by the bloody, rusty-colored expectoration characteristic of the pneumonia. On account of the difficult, interrupted respiration, he was unable to lie down during the whole sickness, until the last day of his life, and then only for the last two hours. He formerly suffered from a troublesome and persistent vertigo, as if on shipboard, all the time except when lying still; for this he went twice to Europe, with partial relief. He was also subject to an interruption of his respiration when on the point of going to sleep. This latter symptom, which had been much relieved, returned during his last illness with great severity, causing the most extreme suffering. During his whole sickness he never, for a moment, slept without respiration ceasing. Obliged to maintain a sitting posture, with his head resting forward on a support, and overcome with the desire to sleep, he found it impossible to do so for more than fifteen or twenty seconds at a time, during which interval his respirations entirely ceased, to be resumed on waking, with panting as after running violently, till the lungs became again filled with oxygen. This experience was constantly repeated till at last nature, utterly exhausted, gave way. His sufferings were aggravated by an inflammation of the throat, with diphtheritic deposits on the tonsils, uvula and posterior wall of the pharynx. Dropsical effusions set in during the last days; the legs and feet became œdematous, ascites, hydrothorax and hydropericardium follow-

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ing in the order named, and life in this world ceased on the morning of Friday, March 9th, at twenty minutes before three o'clock. During all this indescribable suffering he exhibited the most wonderful patience and submission. He foretold at the outset that this sickness would be his last, and predicted with accuracy the several stages through which it would pass. He did not fear death, but looked upon it as a transition stage through which it is as important we should pass as that little children should be born into the world, and compared it to a birth into the other world. Just before he passed away he said that he had come to the great event of his life, bade all a loving and final adieu, and without a struggle, passed beyond, where trials cease from troubling and the weary are at rest.

CHARLES H. SKIFF, M.D.

Dr. Skiff was born at Spencertown, Columbia County, N. Y., May 17th, 1808, and died at New Haven, Conn., December 11th, 1875.

His boyhood was passed chiefly with his grandfather, Nathan Skiff, on Skiff Mountain, in Kent, Litchfield County, Conn. He graduated in medicine at the Berkshire Medical School, September 5th, 1832. He married, October 17th, 1833, Rachel McKinstry, of the town of Livingston, Columbia County, N. Y., and commenced the practice of medicine in his native town. In 1842 he moved to the city of Albany, and in the autumn of 1843 to the city of New Haven. There he resided until his death, with the exception of the years 1860 and 1861, during which time he lived in the city of Brooklyn, N. Y.

Dr. Skiff had two children, a daughter, born in 1834, who lived only about four years, and a son, Charles W., who was born January 19th, 1839, educated in New Haven, graduated at the New York Homœopathic Medical College in 1860, continued his studies in Germany, and after his return commenced the practice of medicine. After a few years he left the medical profession, and engaged in manufacturing business. He lives in New Haven, occupying the residence of his father, the subject of this notice.

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The death of the daughter, and a severe illness of his own, were followed on the part of Dr. Skiff by a change of opinion and practice. He adopted the principles taught by Samuel Hahnemann, and the remainder of his life was spent in faithfully administering the homœopathic practice. He was one of the original founders of the American Institute of Homœopathy, was chosen its chairman at its session in Buffalo, 1855, and retained through life his interest in its growth and achievements.

Dr. Skiff was also one of the original members of the Connecticut Homœopathic Medical Society, and was chosen president of it one or more years.

To him belongs the honor of being the first homœopathic practitioner residing in the city of New Haven. Dr. E. T. Foote soon followed, and the two were for a short time associated in the practice. A firm foothold for homœopathy was speedily secured in that conservative city, in spite of a bitter and unrelenting opposition. Those who had hitherto represented the science and art of medicine gave to the new method no other recognition than an intolerant hostility.

Dr. Skiff had important qualifications for success in the medical profession. He was energetic, industrious, cheerful, attentive to his business and prompt in his decisions. His manners were courteous and affable, and he brought to his patients a sympathetic nature and personal magnetism that greatly assisted him and benefited them. He was a good observer and a successful prescriber. He gained the confidence of a large constituency, and fully deserved it.

His wife, after a prolonged illness, died December 5th, 1874. This great loss occurred at a time when his own health was failing. Complicated chronic disorders led to his partial withdrawal from active business. His illness was at times accompanied by much suffering; it culminated in Bright's disease of the kidneys. His death left many to mourn the loss of his genial friendship and his faithful ministrations.

The foregoing appreciative tribute to the memory of our late veteran associate has been contributed by his long-time friend and neighbor, Dr. W. W. Rodman.

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JAMES MAIRS, M.D.

Dr. James Mairs was born in Galway, N. Y., in the year 1796. Died January 1st, 1876, in the eightieth year of his age. He graduated from Union College about the year 1822; studied medicine with Dr. Low, of Charlton, N. Y. He commenced the practice of his calling in Kingston, Ulster County, and remained there until 1834, when he removed to New York City, where he built up a large practice, working till the last.

When Dr. Mairs came to New York, homœopathy had been introduced by Dr. Gram, and was making some headway. Among its converts were Dr. Alfred Freeman and Dr. James Lillie, the latter a Scotch Presbyterian minister, who became quite an enthusiast in the cause. One day meeting Dr. Lillie in the street, Dr. Mairs told him about his suffering from rheumatism. Dr. Lillie explained to him the claimed advantages of homœopathy, his confidence in its efficacy, advised him to make a trial of it for his rheumatism, and gave him on the spot a dose of *Rhus tox.*, 30th. Dr. Mairs rested much better that night than usual, but was not much inclined to attribute the alleviation to the minute dose he had received. A short time after he had a case of scarlet fever, a bad case, which he felt sure would die unless it could be relieved by other means than any within his knowledge. In his anxiety he bethought him of his conversation with his friend Dr. Lillie, and concluded to call in Dr. Freeman, without, however, any but the vaguest expectation of benefit. The experiment turned out to be far more favorable than he had dared to hope, for the child recovered, greatly to the doctor's astonishment. It cannot, however, be a matter of surprise that he should be encouraged to try again. In a number of other cases in which he invoked the aid of Dr. Freeman, the results were so often and so promptly favorable, that he became satisfied that there was some virtue in homœopathy, and that it was his duty to inform himself more definitely as to its principles and methods. Accordingly he forthwith procured all the books then published on the subject, commenced a diligent study of their contents, and the use of the remedies as he found himself qualified to prescribe. For some time in the early part of his homœopathic practice he

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was always apprehensive of finding his patients worse the next day; but as he generally found the reverse to be the case, he gradually acquired confidence, not only in the system, but in himself. For a time even after he had virtually adopted the new system, he still carried about him his case of allopathic drugs, till one day some special circumstance so disgusted him with the unscientific and unsatisfactory character of the old dosing system, that he seized his collection of drugs and threw the whole concern into a vacant lot, exclaiming as he did so, "That's the last allopathic dose I will ever give." So far as known, he adhered through life to the resolution then expressed.

Dr. Mairs was a man of quiet and somewhat retiring habits, untiring in his duty to those under his care, but at least for several years past not much inclined to join in any public or society gatherings. By the older members of the fraternity he was highly esteemed for the many excellencies of his character, though unfortunately to most of the younger generation of homœopathic physicians he was too much of a stranger. He assisted in the organization of the Institute in 1844.

We are indebted to Dr. W. Freeman for the facts in the above notice.

LYMAN CLARY, M.D.

Another of the well-known veterans of the Institute who have passed away since the last enumeration of our departed associates, is Dr. Clary, who has been one of its most regular and active members for many years. His death occurred on the first of June, 1876, at his residence in Syracuse, of which city he had been a resident and medical practitioner for nearly fifty years. For about half that time he had been an avowed homœopathist, and an intelligent and earnest defender of that medical faith, in the practice of which he had an extensive experience.

He was born in Deerfield, Mass., in 1803, and was, therefore, seventy-three years old at his death. When a boy of fourteen he accompanied his parents to their newly selected home in Ohio, where he availed himself of the best opportunities of education accessible, and in due time commenced the study of medicine in the office of his friend, Dr. Mauer. Before completing the pre-

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scribed term of study, he returned to Deerfield, his native place, and continued his pupilage in the office of Dr. Williams, on account of its being more convenient to collegiate instruction than his western home at that early day. He was a close student, and graduated with honor as doctor of medicine in 1828. He then returned to Ohio, but without any determined plan as to his future course. Having purchased a horse, he started out upon a prospecting tour, travelling very much as chance or whim directed.

In this desultory way he travelled through parts of Ohio and into Pennsylvania, and then turning northward, at length reached the "Onondaga country," which charmed him by the beauty of its widespreading landscapes. Leaving his horse to choose his own way, he soon found himself before the door of the village tavern of Salina, now included in the city of Syracuse. After a survey of the ground, he sought an interview with Dr. Day, a physician of the place, and asked his advice. He was recommended to settle there—advice that accorded well with his inclination. He was also fortunate in receiving a cordial reception from the other two resident physicians, one of whom, Dr. Ball, now of New York, subsequently became a convert to homœopathy and one of the original founders of this Institute, and was the means, also, as will presently appear, of bringing Dr. Clary to the same mind. Dr. Ball still survives as one of our most venerable associates.

The prosperity of Dr. Clary was of slow growth, but his assiduity was ultimately rewarded by the acquirement of a large practice and an enviable reputation. While he was yet waiting for the better fortune that seemed so long coming, he was induced to try a change, and went to Richmond, Va.; but the experiment was not satisfactory, and he soon returned to his former field, only changing his residence to the adjoining and more rapidly growing town of Syracuse. There, by fortunate, or rather judicious investments in real estate, the foundation was laid for that financial prosperity that attended his later years, and which enabled him to exercise a liberal and judicious beneficence.

The kindly relations with his neighbor, Dr. Ball, already referred to, ripened into a close friendship, in no way diminished

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by Dr. Ball's removal to the metropolis, or even by his adoption of what Dr. Clary considered a gross medical heresy. This mutual regard for each other did not, however, prevent the two friends, in their correspondence and occasional interviews, from engaging in rather lively controversy, which between less amiable disputants might easily have degenerated into more serious strife. On one of Dr. Ball's annual visits to the scene of his early labors, having patiently listened for some time to the raillery of his allopathic friend, he came to the conclusion that he had borne it about long enough, and demanded of his opponent that he should either give the principles and methods of the homœopathic system a fair and reasonable investigation—which he had not done—or else should cease to ridicule it. The result of this conference was a promise on the part of Dr. Clary and his partner, Dr. Richardson, to put the method to practical proof, and a consent to receive such medicines, books and special instructions as Dr. Ball might consider sufficient for the trial. The writer has heard from Dr. Clary himself an amusing account of the reluctant and clandestine way that he and his associate undertook to carry out their engagement, and their surprise at the unexpected favorable issue of their first experiments. The first case they ventured to treat according to the new method was one of severe croup, in a child whom they had more than once before treated for the same disease in the then usual heroic manner. The prompt and salutary action of the remedies and the rapidity of the cure, as contrasted with their experience previously in the same subject, were so remarkable, that, though still unconvinced, they could not but admit that their prejudice was a little weakened, and they were less unwilling to continue the investigation. An opportunity soon occurred in Dr. Clary's own family. His daughter was seized with a sharp attack of pleurisy; but before resorting to the orthodox treatment by bleeding, blisters, etc., it was decided to try, cautiously, the milder expedients of homœopathy. Laying his lancet on the table, Dr. Clary watched with anxiety the action of the unfamiliar remedies. The lancet was returned to its case. As in the previous instance, the cure was speedy and complete.

During several months these gentlemen quietly carried on

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their experiments, with steadily yielding prejudices in one direction and gradually growing confidence in the other, until at length they could no longer hesitate to announce candidly their change of opinion and their intention to adopt, in future, the homœopathic method as the basis of their practice.

This was in 1845. Dr. Clary was at that time President of the Onondaga County Medical Society, and Dr. Richardson one of the censors. At the next meeting of the society, a violent attack upon homœopathy was made by one of the members, denouncing it as absurd and undeserving the least consideration. Dr. Clary, without hesitation, defended the claims of the system to at least a candid examination, and gave account of his carefully conducted experiments and the effect they had produced upon his own mind; adding that with such convincing proofs of the greater efficacy of the new system, he could not in honesty withhold the acknowledgment of his convictions, or refuse to avail himself of its advantages in his practice. Having thus, in a dignified and manly way, given his testimony, he tendered his resignation. In his withdrawal he was accompanied by Dr. Richardson and Dr. Hurd, and for the same reasons.

These proceedings naturally occasioned a great deal of excitement among the members of the profession and in the community, and Dr. Clary and his retiring associates became the objects of no little obloquy in certain quarters. This conduct, however, was not universal in the society, and some were induced by what had happened to examine into the merits of the new system and finally to adopt it, so that within no long time after the withdrawal of Dr. Clary he was followed in the same course by six or seven others of his former associates. Among these were our esteemed colleagues, Drs. L. B. Wells, C. W. Boyce and B. R. Shenck.

No better proof of the estimation in which Dr. Clary was held by his large body of patrons could be given than the fact that out of the whole number all but two or three families continued their relations to him, notwithstanding his change of practice, while his general popularity was greatly increased.

He ratified the sincerity of his conversion by joining at once the recently formed American Institute of Homœopathy, of

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which, nine years later, he was elected chairman. He thoroughly identified himself with the cause of medical reform advocated by the homœopathic school and as represented by their various organizations for mutual co-operation and defence. He was President of the New York State Homœopathic Medical Society in 1852, and, at different times, of the Onondaga County Homœopathic Society, of the Central New York and other similar medical societies. His familiarity with the rules of order in public assemblages and a courteous and business like tact in enforcing them, made him a capable and efficient presiding officer. He was also a ready and forcible debater on questions in which he was interested. He took an active interest in public affairs, especially in those that affected the welfare of his adopted city, and was a liberal supporter of its public charities, towards which he not only contributed of his substance but gave freely in the way of gratuitous services.

As a physician, he deserved all the reputation he acquired during his long experience. He was generally quick and remarkably exact in diagnosis, and a skilful prescriber. While a firm believer in the fundamental principle of homœopathy, he never professed to be a purist in his practice. He did not doubt the truth of the law similia similibus, but recognizing the difficulty of its application in all cases, in the present state of our Materia Medica, he felt not only at liberty, but in duty bound, to employ any supplementary treatment that promised any advantage to his patients. It was with him, however, as with hundreds of other intelligent physicians who have come over to homœopathy from the old school, with a certain measure of confidence in some particular expedients, that a more extended knowledge of the resources of the new method rendered a resort to merely palliative and temporizing devices less and less necessary.

As a citizen, a neighbor and friend, and in all the social and domestic relations of life, Dr. Clary was not only above reproach but greatly respected and beloved. He was a strict and consistent temperance man, a liberal Republican in politics, and, in the latter years of his life, a member of the Unitarian denomination.

For several years he was subject to attacks of angina pectoris, and for nearly a year before his death he suffered severely.

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In 1830 he married Miss Fanny Ware, of Deerfield, who survives him. He leaves, also, two children, Ware Clary, Esq., and Mrs. D. F. Gott.

WILLIAM BAXTER, M.D.

Dr. Baxter was born in Delhi, Delaware County, N. Y., February 9th, 1805. He received an excellent general and classical education, graduating in the Humanities from Union College in 1828. He had matriculated at Hamilton in 1824, and was a member of that institution for three years; but at the end of that time, in consequence of some internal disturbances in the college, he left and joined the senior class of Union.

Having chosen medicine for his profession, he began to study in the office of Dr. Mitchell, of Norwich, Chenango County, and afterwards, and while attending lectures in the New York College of Physicians and Surgeons, was a private pupil of Prof. Edward Delafield. He received his doctorate from the above-named college in 1831. After his graduation he was appointed the first resident physician of the New York Lying-in Asylum, a position which he sustained for two or three years with entire satisfaction to the authorities. His successor in this important service was Dr. John A. McVicar, between whom and himself there ensued a close and abiding friendship. For some time he was also connected with the New York Dispensary.

In 1832 the first epidemic of Asiatic cholera occurred in New York City. Hospitals were established in various parts of the town for the reception and treatment of cholera patients. In one of these, in Rivington Street, Dr. Baxter served as one of the assistant physicians during the whole time it was in operation.

The following year he removed to Norwich, and became associated in practice with his former preceptor, Dr. Mitchell. In 1838 he established himself in Wappinger's Falls, Dutchess County, N. Y., where he remained till his death, enjoying the respect and confidence of the entire community.

The rise and progress of homœopathy were a great annoyance to Dr. Baxter. He was very decided in his censure of those physi-

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cians who adopted the system, accusing them of being influenced altogether by selfish and interested motives. He continued very hostile to the practice until after the conversion of his old friend, Dr. McVicar. Having till now every reason to maintain the utmost confidence in the character and intelligence of this gentleman, whose friendship he greatly prized, the news of his apostasy, as he esteemed his adoption of homœopathy, was a severe shock to his feelings. He took an early opportunity to seek an interview with his misguided friend, for the purpose of learning from his own lips the explanation of his strange infatuation, and to expostulate with him on the impropriety of his course.

The result of that and several subsequent visits was altogether different from what he had anticipated. He could not doubt his friend's honesty of purpose, nor consistently refuse to subject the claims of the new system to an experimental ordeal before condemning the step he had deliberately taken. The skepticism of Dr. Baxter was extreme, but he faithfully pursued the promised investigation through many months, with occasional aid and suggestions from his new mentor. After many conflicts with his old prejudices, at length, in the summer of 1845, he surrendered completely, openly and unreservedly avowing his belief in, and his adoption of, the homœopathic code. In this medical faith he continued firm during the remainder of his life, practicing according to its methods for the last thirty years.

He joined the American Institute of Homœopathy at the Boston session in 1847, and consequently has been for several years enrolled among its "veterans." He was also a member of the New York State Medical Society, and of the Homœopathic Society of his county. He applied himself closely to his professional duties and did not seek promotion or honors.

About two years before his death, he became subject to retention of urine and cystic catarrh, from which he sometimes suffered severely. He died of general debility July 3d, 1875, in the seventy-first year of his age.

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WILLIAM F. GUERNSEY, M.D.

This highly esteemed physician, the brother of our distinguished colleague, Dr. H. N. Guernsey, was born in Rochester, Vt., in December, 1814. Having attained a mature age before deciding to devote his talents to the practice of homœopathic medicine, he applied himself with the strictest assiduity to the task of making up for time lost in his preparation. He removed to Philadelphia in order to place himself more directly under the direction and instruction of his brother, and to avail himself of the advantages offered by the Homœopathic Medical College of Pennsylvania, from which he graduated in 1852.

Few physicians have more rapidly attained so enviable a reputation. Almost immediately after graduation he settled himself to an active practice, which he has steadily pursued, almost without interruption, even for needful recreation, for twenty-seven years. He joined the Institute the very year of his graduation, and identified himself fully with the fortunes and interests of homœopathy by actively supporting the various State and local societies of the school.

Dr. Guernsey was a hard-working man in the truest sense of the word. Untiring in the fulfilment of his arduous duties, conscientious and exact in the study of his cases and with a thorough trust in the sufficiency of the treatment determined upon, he inspired confidence in the minds of those who looked to him for relief. In such a life there is, perhaps, little material for an extended biography; but the true value of such a career is not to be measured by the number or the startling character of the events of which it is made up. By the large circle of patients and friends, of which he was the centre, his loss is as keenly and deeply felt as if his whole life had been filled with a succession of remarkable incidents.

In the midst of his busy life he was suddenly attacked with enteritis, which rapidly assumed a serious aspect and terminated fatally after a few days of intense suffering, in the sixty-third year of his age.

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COURTLAND HOPPIN, M.D.

Dr. Hoppin was born in Providence, September 5th, 1834. He was the youngest of eleven children, all of whom attained maturity before death entered their ranks. During infancy and childhood he suffered a good deal from diseases incidental to that period, but as he grew up to manhood he overcame, in a great degree, this weakly tendency.

He was possessed of more than ordinary intellectual powers, was a quick and ready scholar, and acquired easily. He was endowed naturally with great artistic ablility, such as would have warranted him in adopting the fine arts as his profession in life, a department in which several of his family have become distinguished. His knowledge of form and delight in color were a constant source of the keenest gratification to him during his whole life.

He graduated from Brown University in September, 1855, and immediately commenced the study of the profession of medicine. He entered the office of Drs. Barrow and Hoppin, in his native city, and was for three years attending the usual course of medicine in the New York College of Physicians and Surgeons, from which he graduated in the spring of 1860.

Immediately after this period he commenced practice, and continued alone until the year 1865, when he joined the partnership of Drs. Barrow and Hoppin. This lasted till 1870, when the connection was dissolved; and from that time until his death he practiced his profession alone. During this period he, in the summer of 1874, visited Europe for three or four months. In 1863 he married Mary Frances Clark, daughter of Joseph W. Clark, Esq., of Boston, and leaves a widow and three children.

For fifteen years Dr. Hoppin was connected with the Children's Home, in the city of Providence. This is a charitable institution, and Dr. Hoppin rendered gratuitously efficient aid in administering to the ailments of these little wanderers. At one period, when scarlet fever assailed the institution, no less than forty patients were under his care at nearly the same time, and he was fortunate enough to lose but one out of the large number afflicted with the dire disease.

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He possessed great powers of observation, and of that sort of memory which keen observation carries with it. This was a natural result of his love and knowledge of drawing, which served him in many ways. He became a first rate diagnostician, and was extremely quick in the detection of disease. Having deep-rooted convictions as to the truth of the homœopathic doctrine, and a firm faith in the sufficiency of its resources, he was remarkably exact and conscientious in its practice, and keenly sensitive to any departure from its rules among his fellow-practitioners. He occupied much of his leisure in drawing and painting, and published many works through the medium of chromo-lithography, under the *nom de plume* of "Pilule," which have delighted many who have seen them.

Thoroughly honest and conscientious in every thought and feeling, possessed of the kindest and most lovable disposition, gentle and loving as husband, father, son and brother, he was as courageous as he could possibly be at the time of his death. Perfectly conscious of the approaching fatal termination of his sickness, with finger on pulse and an unwavering faith, he died of membranous croup, October 19th, 1876, with his faculties perfect until the very last, and an unflinching courage that recalls the hero and the Christian gentleman.

He was in the forty-third year of his age.

CHARLES PARKMAN LORING, M.D.

Dr. Loring was a highly respected physician of Providence, R. I., who was elected a member of our body in 1869, and who died in that city January 27th, 1877, of diphtheria, aged forty-two years.

He was the only son of David R. Loring, of Auburn, Me. He was a gentleman of fine education, of courteous manners and of much professional ability. He held a highly honorable position in the opinion of the people of Providence, both as a physician and public-spirited citizen. The following proceedings indicate his standing with the profession of Rhode Island:

"At a special meeting of the Rhode Island Homœopathic Society, held at its dispensary, on January 31st, at 2 P.M., the following preamble and resolutions were unanimously adopted:

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Since it has pleased the supreme arbiter of destinies so soon to remove from among us another associate, in the meridian of his power and usefulness,

Resolved, That we deeply realize he is no respecter of persons, that we all alike await the inevitable hour, and that therefore we should keep our house in order, prepared for instant and final departure.

Resolved, That in the death of Charles P. Loring, M.D., we mourn the loss of a faithful and devoted friend, and an active and zealous assistant in every measure promotive of our common cause.

Resolved, That in this hour of darkness and sorrow, we tender earnest expressions of sympathy to her who has lost a fond and true companion; to that large family circle which has parted with its brightest ornament; and to those numerous friends who to-day drop the silent tear over the remains of their gentle, trustworthy family physician.

Resolved, That we attend, as a society, the funeral of our late associate, to indicate our respect and esteem.

Resolved, That copies of these resolutions, duly attested, be sent to the bereaved family and friends."

GEORGE B. PECK, JR.,
Secretary Rhode Island Homœopathic Society.

JOHN T. S. SMITH, M.D.

Died October 3d, 1876, at the residence of his son, Dr. Henry M. Smith, Spuyten Duyvil, N. Y., John Tillinghast Slocum Smith, M.D., of paralysis. He was born in New Bedford, Mass., October 20th, 1805.

He was descended from John Smith, who came from England about 1640, and settled on Smith's Neck, in the town of Dartmouth, Mass. His great-grandfather married Silvia Howland, a descendant of John Howland, who came over in the Mayflower with Governor Carver, whose daughter he married.

His parents came to the city of New York when he was about six years old, and, with the exception of short periods when he was engaged in business at Pottsville, Pa., and Buffalo, N. Y., he had always resided there. He was in mercantile business with Charles Lawton and Saul Alley, and later with his brother-in-law, Morris Franklin.

In 1840 he made the acquaintance of Dr. A. Gerald Hull, who became his family physician. A year or two later he was called into the office of Drs. Gray and Hull as an accountant, to straighten out their book accounts. While so employed, Dr.

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Hull proposed that he should also prepare their remedies, which at that time were all imported from Germany. Having a fondness for chemical manipulations, a taste for natural sciences, a knowledge of botany, and possessing a considerable mechanical skill, here was afforded an opportunity for the exercise of his proclivities, and he acceded to the request, as an occupation for leisure hours, without, at that time, any intention of making it a business. As soon, however, as it became known to the other homœopathic physicians in the city that he was making the triturations and tinctures for Drs. Hull and Gray, he began to receive other applications of a similar character. After a short time these orders became so numerous that he was encouraged to give his entire time to the preparation of homœopathic medicines. It was in this way that Mr. Smith became the first manufacturer of homœopathic medicines in this country.

To assure himself of the requisite purity of the preparations, he found it necessary to refine the milk-sugar with the greatest care, to redistil the alcohol in glass, to prepare all the chemical salts used, as well as to gather the fresh plants used for tinctures and select the dried ones, the one great object always kept in view being to furnish perfectly uniform and reliable preparations.

Confidence in the entire purity and exactness of the medicines employed is, of course, an essential point in homœopathic prescriptions, the importance of which was fully appreciated by the early practitioners, and induced them to hail with satisfaction the efforts of Mr. Smith to supply them with preparations of his own manufacture.

The beginnings of the new business, of which he was the founder, were laborious, tedious and comparatively crude; but as it steadily increased he was able, and, indeed, obliged, to extend his facilities of manufacture, not only by the enlargement of his establishment, but by the adoption of ingenious mechanical and other expedients. An account of this enterprise, from its almost infantile beginning to the immense proportions to which it ultimately attained, would very nearly represent the history of the progress of homœopathy in this country, especially during an important and critical period.

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As a fitting recognition of the important services rendered to the cause by Mr. Smith, as the father of American homœopathic pharmacy, the Homœopathic College of Philadelphia, in 1857, conferred upon him a special degree of *Doctor in Medicine*, and in 1870 he was elected a member of this Institute.

In 1831 he was married to Amelia Franklin, daughter of Thomas Franklin, Esq., of New York, who died in 1864. Dr. Smith left two sons and three daughters. Two of his sons are physicians, active and useful members of this body.

THEODORE QUICK, M.D.

Dr. Theodore Quick was born in Platterill, Ulster County N. Y., October 29th, 1826. When about ten years old, he removed to New Jersey, where he remained eleven years. Returning to his native place, he commenced the study of medicine in the office of Dr. Daniel Everett, graduating at the Homœopathic Medical College of Pennsylvania, in 1855. After settling at Milton, Ulster County, and practicing there for about ten years, he married Miss Carrie Townsend, who, with an only daughter, still survives him. He remained in Milton a few years longer, after which he removed to Harlem, New York City, where he remained diligently practicing his profession up to the time of his demise.

On the 27th of March, 1877, he was attacked very suddenly with pain in the ileo-cœcal region. After suffering severely for several hours, he sent for his friend and neighbor, Dr. J. H. Demarest, who remained with him during the remainder of the night, and as his condition became more and more serious, called to his assistance Dr. J. R. White, and soon after, Dr. J. McÈ. Wetmore, from all of whom he received unremitting attention until his death, which took place on the 4th of April, eight days from the first seizure.

The post-mortem examination conducted by Dr. Wetmore revealed extensive inflammation of the intestines and peritoneum, with degeneration of liver and kidneys. A large biliary concretion was also found in the gall-bladder. Notwithstanding the evidences of long-existing disease of the liver, as shown by the autopsy, it is remarkable that no symptoms of such a condition

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had ever been observed during his life. He always carried the appearance of an unusually healthy man.

In person, Dr. Quick was of medium height and inclined to corpulence, weighing, when taken ill, 197 lbs., and apparently in fine sanitary condition. He possessed a great flow of spirits, a large fund of humor and ready conversational powers, which, with his sociable disposition, made him as agreeable a companion as he was a firm and true friend, ever ready to greet an acquaintance or entertain a visitor; his genial face, and his frank and hearty manners made him a welcome guest in every company, while his cheerful presence in the sick-chamber inspired its inmates with hope and pleasure.

Dr. Quick was the carver of his own fortune. He was emphatically one of that small number who have risen to position by virtue of intrinsic qualities that are wholly incompatible with failure. Early disciplined in the rigid school of self-dependence, unaided by those extraneous influences, which, while they smooth the pathway and lighten the responsibilities of youth, only tend to soften the muscle and weaken the moral and mental powers of the man, he developed an independence of thought and energy of purpose which constituted the foundation of his success.

The materials for the above memorial have been furnished by Dr. J. H. Demarest.

CHARLES W. TAYLOR, M.D.

The subject of this notice was the son of the Rev. Amasa Taylor, of Ashburnham, Mass., and was born December 26th, 1820. He died at Wilbraham, in the same State, January 1st, 1875.

His youth was marked by no extraordinary incidents, so far as is known to the writer. All accounts agree in describing him as an apt and diligent scholar, of quiet and gentle ways, but with a decided aspiration for an extended and liberal education. At the academy in Wilbraham he distinguished himself by his diligence and rapid progress.

Unfortunately, however, his health became impaired before he was ready to enter college, so that after long struggling with ad-

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verse circumstances, he was at length obliged to abandon the sphere he had marked out for his future. For several years his health continued very imperfect, and he was the victim of much afflictive treatment meanwhile.

It was during these years of illness that he became acquainted with homœopathy, and obtained practical experience of its advantages over the prevailing so-called heroic way of dealing with disease. Having, at length, and as he felt persuaded, recovered his health in a good degree in consequence of his adoption of homœopathic treatment, he conceived a strong desire to adopt the practice of medicine as a profession, in order that he might extend the benefits of the new method to others. His long term of physical disability necessitated the making up of much lost time and needful preparation. But he was not deterred by these conditions. Having looked the difficulties fairly in the face, he set to work with a zeal and eagerness proportionate to the occasion. He graduated with credit from the Homœopathic Medical College of Cleveland in 1853.

Dr. Taylor commenced practice in Westfield, Mass. Subsequently he removed to Malden, in the same State; and still later, after several years, to Newtown. There he was very successful, and his practice became large and laborious. Although entering upon his career somewhat late in life, he was not less ardent in its pursuit than those who start with the advantages of youth and strength. He was highly esteemed by his professional colleagues as a close observer and prudent and wise counsellor. He certainly secured in an extraordinary degree the confidence and admiration of his large circle of patrons.

Fatigue and much exposure induced bronchial consumption. In the hope of arresting the disease, he spent the winter and spring of 1873–4 in South Carolina; but finding little advantage from the experiment, he returned to the North and removed to Wilbraham, the scene of his early years. There he lingered in a gradual decline, and often in severe suffering, till the beginning of the new year. He died happy and peaceful on the first day of 1875, having just entered his fifty-fifth year.

He was elected a member of the Institute in 1869.

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JAMES L. SCOTT, M.D.

Our late colleague, Dr. J. L. Scott, was born October 1st, 1838, at East Fallowfield, Chester County, Pa. His preliminary education was completed at the Coatesville Academy in his native county. He commenced the study of medicine in the same place under the instruction of Dr. D. R. Bardin, in 1858, and graduated at the Homœopathic Medical College of Pennsylvania, in 1860.

He first opened an office in Coatesville, but afterwards acted as surgeon on a clipper ship plying between New York and Liverpool. After the close of this engagement, Dr. Scott settled in Hackensack, N. J., where he was successful in gaining a desirable patronage. After a number of years he was induced to return to the scene of his first professional venture, Coatesville, in consequence of the retirement of his former preceptor, Dr. Bardin.

His career in this town was a continued success until his death, which occurred August 15th, 1876. His loss is deeply regretted by his large circle of patients and friends, and by his fellow-townsmen, who universally held him in high esteem.

Dr. Scott was elected a member of the Institute in 1871, and was also a member of the Homœopathic Medical Society of Chester, Delaware, and Montgomery Counties, Pa., in which a brief and appreciative memoir was read, after his death, by Dr. James B. Wood, of West Chester, Pa.

MARTIN MAYER-MARIX, M.D.

Dr. Marix was born in Hamburg, Germany, December 16th, 1832. He received a thorough training in the schools and gymnasia of his native country, and completed his medical pupilage at the celebrated University of Leipsic. Through the good offices of the distinguished Dr. Paul Wolff, of Dresden, Physician to the Queen of Saxony, he became early interested in the subject of homœopathy, which he proceeded to investigate with impartiality and caution. Having become convinced of the validity of its claims to scientific merit, and having for political

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reasons deemed it prudent to leave the country, he decided to seek a more congenial field for the exercise of his talents and skill on this side of the Atlantic.

After leaving Germany, he spent a year in London, visiting the different medical institutions, particularly Guy's Hospital, for the sake of study and improvement. Arriving in this country, he spent some time in travelling through the Eastern and Southern States and Cuba. Returning from Havana he settled first in Appleton, Wis., where he was the first to introduce the new practice. While there he also filled the chair of Modern Languages and Literature in the Lawrence University at that place. In 1857 he removed to the city of Buffalo, where he formed an association with Dr. Zina Harris, who may justly be considered the pioneer of homœopathy in that section of the State of New York.

At the outbreak of the rebellion he promptly offered his services to the government, which being by the help of powerful influence readily accepted, Dr. Marix received a commission in the regular army. He served with fidelity and approval in that position for two or three years, when on account of impaired health from exposure he was obliged to resign. He then removed to Leavenworth, Kansas, where he resumed his profession and soon built up a good practice, and founded the Homœopathic Free Dispensary.

In 1869 he spent about a year in Europe on account of his health, after which he returned to the United States, and this time sought a field still farther west. In Denver, where he established himself, he was again fortunate in building up a fine practice, which he retained till his death, January 19th, 1877. As evidence of the favorable estimation in which he was held in the city of his residence, it may be stated that several years ago he was elected coroner against his consent, notwithstanding that his opponent was a reputable allopathic physician, supported by the united influence of his old-school brethren.

Dr. Marix was elected to the Institute in 1868. He was also corresponding or honorary member of several scientific and medical societies, and an Honorary Doctor of Medicine of the Homœopathic Medical College of Missouri.

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JAMES GUTHRIE HEATON, M.D.

Dr. Heaton was a Pennsylvanian by birth, the son of Mr. Weaver Heaton, of Millsboro, Washington County; born February 5th, 1838. At fourteen he removed with his family to Greenfield, in the same county, where he had the advantage of attending an excellent academy.

Being determined to acquire a thoroughly classical and liberal education he matriculated at Mount Union College, Ohio, in 1860; but in consequence of a deficiency of means he was obliged to discontinue his connection with the institution at the end of his junior year.

He had begun the study of medicine before entering college, intending to resume it after his graduation. In 1862 he was encouraged by his friend, Dr. E. G. Painter, of Alliance, to study homœopathy. From him also he received such evidence of its superior advantages over the dominant system that he concluded to follow his advice. Having passed a proper period of preparatory office study under the direction of his preceptor, he attended the full course of instruction at the Homœopathic College in Cleveland, and graduated there in 1869.

Dr. Heaton's first field of labor was Fairchance, Fayette County, Pa., but he had hardly secured a good foothold there before he was induced to remove to Alliance, O., to assume the charge of the extensive practice of his preceptor and friend, Dr. Painter, whose health had become seriously and permanently affected. He was admitted to the Institute in 1870, and became an active member of several other homœopathic societies of his State and district. He was for some time physician of the board of health of his adopted town, and was highly respected by his fellow-citizens generally; and his death, which occurred June 27th, 1876, in the 39th year of his age, was universally regretted.

AARON HOLT, M.D.

Dr. Holt was born in Holden, Mass., October 5th, 1808. He was not originally intended for the medical profession, but when a boy was apprenticed to the trade of a machinist. The busi-

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ness did not prove congenial to him, and he developed a fondness for learning which he had not the means of obtaining; but by diligent use of his over-time, nights and Sundays, he managed to make considerable advances towards the goal to which he aspired. Having, at length, after years of persevering exertion and a careful husbanding of his moderate earnings, found himself in a condition to relinquish his mechanical pursuit and devote his whole time to the fulfilment of his desires for a liberal education, he determined to qualify himself for the calling of a physician, and arranged his course of reading with reference to that design. He was twenty-seven years of age, however, before he was ready to begin a regular course of medical study, and had five years more of close application before he commenced practicing as an eclectic or botanic doctor in Andover, Mass. Soon after he removed to Lowell, where he established and conducted an infirmary for several years. This enterprise, although quite successful in a business point of view, was far from satisfying his intelligence, especially after his attention had been arrested by the superior claims of homœopathy, then gaining ground in his vicinity. He gave the subject much reflection, and was favorably impressed with what he read and heard regarding the new system, but was not then prepared to undertake the task of mastering the intricate details sufficiently to practice it.

About 1841 he removed to Palmyra, Wis., and afterwards to Lyndon, Ill. In 1849 he was seized with a severe attack of pulmonary hæmorrhage, from the effects of which he gradually recovered; but being disabled from practice for a whole year or more, he occupied the long interval of his convalescence in acquiring a knowledge of the system in the merits and progress of which he had by that time become enthusiastically interested. When able to resume his professional labors, he adopted as far as he felt qualified the method of Hahnemann, and being the only practitioner who professed any knowledge of or preference for the practice within a circuit of forty miles, his services were much in request over a large area.

Not content, however, with the knowledge which he could gain by reading and practice, he broke off his accustomed duties, and at great present loss to his practice spent two winters in

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Cleveland, in order to go through the regular course of instruction in the Homœopathic College there. He received his degree in the spring of 1856, when forty-eight years of age. The following year he was admitted to the Institute.

Dr. Holt remained in Lyndon, where, and in the country about, he exercised his vocation with entire acceptance until his death, at the age of sixty-eight years.

The above brief sketch presents with distinctness the history of a career in many respects remarkable and worthy of study. As may be gathered from these few details, Dr. Holt was a man who emphatically carved his own fortune, and who by self-reliance and an upright life won for himself not only a desirable reputation in his profession, but the respect and esteem of the community in the midst of which he spent his life.

WILLIAM L. CLEVELAND, M.D.

Dr. Cleveland was the son of Dr. John Cleveland, of Harrisburg, Pa., in which city he was born June 16th, 1809. His father dying while the son was still young, he had many difficulties to contend with in obtaining the education which he ardently desired. At an early age he manifested a preference for the profession of his father. In 1832 he began to study medicine in the office of his brother-in-law, Dr. C. J. Ward, of Wilkes County, Georgia, to which State he had removed after the death of his father. His purpose of attending medical lectures in Charleston was frustrated by his want of sufficient means, and he followed the course that seemed at the time most feasible, by engaging in the drug business. As his business prospered, he still cherished his original desire of becoming a physician, and with that view continued to carry on his studies as well as he could, and availing of such opportunities as offered to attend the lectures in the college. The remarkable recovery of his sister under the treatment of Dr. Bayard, of New York, turned his attention to the subject of homœopathy, and gave a new direction to his thoughts. His inquiries into the merits of this method resulted in his determination to devote himself in future to its practice. Disposing of his business, he visited sev-

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eral northern cities, where there were better facilities for acquiring the necessary practical acquaintance with the details of homœopathic practice. In the pursuit of this object he was much assisted by Dr. J. Lloyd Martin, of Baltimore, and in due time received his diploma from the Homœopathic College of Cleveland.

Returning again to the South he began his career as a homœopathic physician, in 1858, when nearly fifty years old, in Atlanta, Ga.

He gradually succeeded in obtaining an excellent position and a large constituency, although in the beginning he was subjected to persistent and violent opposition from the old-school profession of the city. He has been pronounced one of the ablest homœopathic physicians of the South. As a citizen and neighbor he was highly respected throughout the community. Very active in his habits, he was yet so exclusively devoted to his profession that he had no ambition for public or social distinction.

He was elected to the Institute in 1867, and maintained his allegiance to the cause he had embraced, after so many delays, with unwavering assurance to the last. His health had been gradually failing for some time, but he continued, with scarce any interruption, in his usual daily routine of professional labor, until within a very short time of his death, which occurred at Atlanta, May 20th, 1876.

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LVII.

REPORT

OF THE

COMMITTEE ON MEDICAL LITERATURE.

By A. E. Small, M.D., Chicago.

The addition to our Book Literature during the past year has been of a character that commends itself to the entire profession. It is scientific and practical in its sphere, and reflects a credit upon the indefatigable labors of the respective authors, which cannot fail of being appreciated as greatly in advance of the medical periodical literature of the day.

The *Condensed Materia Medica*, by Constantine Hering, M.D., furnishes a book of ready reference to the practitioner, and is but another gem in our literature to be placed side by side with the other valuable works of their indefatigable author.

The two additional volumes of the *Encyclopedia of Materia Medica*, by T. F. Allen, M.D., indicate the advance that is being made in the publication of one of the greatest and most valuable works that can adorn a medical library. The nature and extent of the enterprise, as well as the reliable knowledge it imparts concerning the capacity and powers of so vast a number of remedies, must secure a unanimous verdict in its favor, and also an abiding gratitude and admiration for the industry, perseverance and accurate labors of the author.

Not less meritorious is the work on *Clinical Therapeutics*, by Temple S. Hoyne, M.D., of which the first and second parts of

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Volume I have been issued, showing the clinical uses of *Aconite, Belladonna, Bryonia, China, Nux vomica, Phosphorus, Rhus toxicodendron, Sulphur, Gelsemium, Veratrum viride, Arnica* and *Carbo vegetablis.* This book, issued in parts of 112 pages each, and now in course of publication, promises to be a work of great merit when complete. Judging from the two parts already published, it must be conceded that the plan adopted by the author is eminently practical, and fills a niche in our book literature which competes successfully with all preceding efforts to delineate the therapeutic use of remedies.

The third edition of the work on *Diseases of Women*, by Reuben Ludlam, M.D., has come fresh from the press since the last meeting of the Institute, and reflects the usual credit upon the well-earned reputation of the author. It has been translated into the French language, and is now in course of publication in Paris.

A new treatise on *Ophthalmic Therapeutics*, by T. F. Allen, M.D., and George S. Norton, M.D., has also been published during the last year, the merits of which can be judged of from the well-known reputation of the authors.

A work on *Diseases of the Skin* has also made its appearance, from the fertile pen of Dr. S. Lilienthal, of New York. It was published originally as a supplement to the *Hahnemannian Monthly.* Although its modest author claims that it is no more than a compilation, it is nevertheless a valuable addition to our special literature, and in a second edition may be made still more so.

The above works have severally been noticed, as being valuable additions to any well-selected medical library. Some of them have not escaped the flirtation of the critic's pen. It is well understood, however, that some writers have more talent for magnifying unimportant defects than for comprehending on a grand scale the utility of an author's labors. Nevertheless, praiseworthy authors usually invite fair, truthful and wholesome criticisms upon their labors, but not from those so smitten with the "cacoethes scribendi" as to write for all the journals and upon all subjects, without the ability of rightly comprehending any of them. It requires but little thought and less talent to

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be so filled with self-conceit that one can criticize or even puff a work, which, to say the least, has been a severe tax upon the author's time and brain. When works written for the profession are issued from the press, it would seem to be incumbent on the journals to give a brief but careful analysis of their contents, in order that something like a just estimate of their value may be made. This would pave the way for the critical examination and improvement of our literature, a hint from which our periodicals may profit.

Our *Periodical Literature* during the past year, though quite as well sustained as in former years, has apparently fallen below that of our books, and suggests the thought of there being ample room for great improvement.

The *North American Quarterly*, the oldest of our periodicals now published, under the able editorial management of Dr. Lilienthal has lost none of its prestige. Its pages continue to be well filled with well-written selected and translated papers, some of which seem a little verbose and heavy, and apparently wanting in the vivacity and brilliancy which usually mark the editorials of the indefatigable manager, and yet its loyalty to the cause which it advocates, as well as the number and variety of valuable papers which each number contains, renders it one of the most valuable periodicals of our school.

The *American Observer* still continues to be industrious in furnishing its readers with a fair amount of matter from its correspondents. It is in many respects valuable and interesting, on account of its aptitude for gathering up medical news, facts and clinical experience. This journal has never been tardy in making its mensual round among its subscribers, although its infirmities for several successive years were made apparent by the amount of drugging to which it was subject from "new remedies." The profession may well rejoice at its present healthy condition, and the improved tone and vigor of its contents since its overstock of Eclectic preparations have become exhausted.

The *Ohio Medical and Surgical Reporter*, with its excellent editors, chronicles much that is valuable, but its readers are somewhat inclined to complain for having to drink four or five cups before they come to the coffee. It will nevertheless repay

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those who have sufficient leisure to sit long at meals, to indulge in a monthly feast with this journal.

The *Hahnemannian Monthly* still fills its pages with material drawn from its ample resources. It maintains its loyalty to genuine homœopathy, and fearlessly exposes the charlatanry of those whose fondness for notoriety leads them to write so flippantly for all the periodicals of the day. Its pages are, for the most part, filled with well-written articles, void of prolixity and eminently practical. There has been a wise consolidation of this journal with that recently edited by Dr. A. R. Thomas, and this promises to be a fruitful marriage.

The *Cincinnati Advance* is still advancing; its editorials are full of youthful vigor. Its articles are for the most part brief and enjoyable. Some of them betray a pugnacious or controversial proclivity, spiced with a microscopic criticism, far more amusing than instructive. But on the whole, this periodical is well esteemed, and would be sadly missed if discontinued.

The *United States Medical Investigator* is a semi-monthly periodical, and from the fact that each issue is the fruit of two weeks almost incessant care and attention of its editor, its merit must be apparent. It is generally well filled with communications, clinical essays, hospital and dispensary reports, new and fresh from various fields of labor. While a just criticism might mete out a degree of severity to some of the correspondents, and especially to the careless proof-reader of this journal, it may be said to be one of the best channels through which to gain information concerning the progress that medical science is everywhere making. It would, however, add greatly to the respectable standing of this journal, were a greater care exercised in excluding from its columns worthless communications, void of dignity or good sense.

The *New England Medical Gazette* still maintains its regularity as the star in the East. It appears to be under the control of the less experienced members of the profession, and contains many well-written essays, and clinical hints more spasmodic in style and character than are well-digested articles from the experienced members of the profession.

The only remaining journal to notice is the *American Homœ-*

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opathist, born yesterday; and so far as we have learned, the mother and child are doing well.

With regard to our periodical literature in general, much might be suggested by way of improvement. The columns of our journals are too frequently filled with a rehash of old controversies, as dry as dead cedar in a limekiln, and of as little interest to their readers. Our therapeutics might be greatly improved were the fields of clinical experience more thoroughly cultivated and the results given to our journals. The review department, with one or two exceptions, has dwindled into dwarflike notices, which consist of the title-pages, and the names of the booksellers who vend certain books. The need of a periodical review of the medical literature as it emanates from the press, both dignified and just, is felt generally by the patrons of our journals. There is a growing distaste for controversial articles, and the pages of a dignified medical journal will soon dwindle into personal diatribes and contention for the last word, where personal controversies are permitted. Liberty of speech and candid statements of the differing convictions of well-trained minds are always in place when there is no bigoted strife for the mastery. One of the most sacred of all inalienable rights is the privilege of reading, reflecting and meditating upon different views, with the right to choose from conviction without the fear of partisan favor.

Another obstacle in the way of elevating to a properly dignified standard our periodical literature, is the proneness of certain scribblers to send communications of no value except to make their authors names prominent as writers. When a writer becomes a universal correspondent of all the journals, he simply contributes to their weakness, and makes himself notorious among their patrons as one anxious to blow his own horn.

We hope the time will come when the proprietors of each journal will discriminate between such scribblers and careful and truthful observers. When we look back to the days of the old *Medical Examiner*, the *Boston Quarterly Journal* and the early volumes of the *British Journal of Homœopathy*, and compare many of our modern magazines with those dignified journals, we are forcibly reminded of the degeneracy of most of our periodical literature.

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Our foreign English journals, under the direction of such men as Pope, Dudgeon, Hughes, Drysdale and Shuldham, furnish us constantly with an exemplary literature, which we ardently hope will exert a benign influence in this country.

We have had a sufficient number of articles from the French and German journals translated into our vernacular, to render it probable that the cause of homœopathy throughout the world is not wanting in an able literature to sustain it.

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LVIII.

CONSTITUTION AND BY-LAWS.

(ADOPTED JUNE 10TH, 1874.)

CONSTITUTION.

ARTICLE I.—NAME AND OBJECT.

This Association shall be styled the AMERICAN INSTITUTE OF HOMŒOPATHY, and its object the improvement of homœopathic therapeutics and all other departments of medical science.

ARTICLE II.—MEMBERS.

The Institute shall be composed of those physicians who are already members, and of such others as may be hereafter chosen in conformity with the By-laws.

ARTICLE III.—OFFICERS.

The officers of the Institute shall be a President, Vice-President, a General Secretary, a Provisional Secretary, and a Treasurer, with such other officers as shall be designated by the By-laws, to be chosen at such time, in such manner, for such a period, and with such duties, as these By-laws shall ordain.

ARTICLE IV.—SEAL.

The Institute shall have and use one common seal, with a suitable device and inscription.

ARTICLE V.—AMENDMENTS.

This Constitution may be altered or amended by a vote of two-thirds of all the members present at the regular annual meeting, provided that notice of such alteration or amendment shall have been given in writing at a previous annual meeting of the Institute.

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BY-LAWS.

ARTICLE I.—MEETINGS.

The Institute shall hold at least one session in each year, at such time and place as may be determined upon from time to time.

ARTICLE II.—OFFICERS.

SECTION 1. The officers shall be elected by ballot at each annual session of the Institute (with the exception of the General Secretary, as hereinafter provided), and shall enter upon their respective duties the first day of January following.

SECTION 2. The officers of the Institute, viz., the President, Vice-President, General Secretary, Provisional Secretary and Treasurer, shall constitute an Executive Committee, which shall arrange the business of the meetings, attend to matters of business not otherwise specially provided for, and perform such other duties as may by vote of the Institute devolve upon it.

SECTION 3. The General Secretary shall be elected for a period of five years (removable only for cause), and shall be paid an annual salary of one thousand dollars.

ARTICLE III.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at the meetings of the Institute and perform the duties usually pertaining to his office, together with such others as may by vote of the Institute devolve upon him. He shall sign all certificates of membership. He shall deliver an address at the opening of each session on the progress of Homœopathy during the year past, and make such suggestions as he may deem necessary for the Institute to take action on during the session.

SECTION 2. The Vice-President shall perform the duties of the President in his absence or disability.

SECTION 3. The General Secretary shall keep a record of the proceedings of the meetings, conduct the correspondence of the Institute, issue notices of meetings, notify candidates of their election, sign certificates of membership, and perform such other duties as the Institute may direct.

SECTION 4. The Provisional Secretary shall assist the General Secretary, and in his absence perform his duties.

SECTION 5. The Treasurer shall receive all money belonging to the Institute, and make all disbursements under the recom-

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mendation of the Executive Committee. He shall furnish at each annual meeting a written report of the condition of the finances.

ARTICLE IV.—CENSORS.

At each annual session the Institute shall elect, by ballot, a board of five censors (three of whom shall constitute a quorum), who shall receive and examine the credentials of candidates for membership, and report to the Institute for election such as may be found properly qualified. The censors shall enter upon their duties on the first day of January following their election.

ARTICLE V.—MEMBERSHIP.

SECTION 1. Candidates for membership shall present to the Board of Censors a certificate of three members of the Institute that the applicant has pursued a regular course of medical studies, according to the requirements of the existing institutions of this country, and sustains a good moral character and professional standing. Such certificate shall state when and where the applicant obtained a diploma. If found qualified the candidate may be elected a member. No person shall be considered a member, however, before paying an admission fee of five dollars, and the annual dues, which shall entitle him to a certificate of membership.

SECTION 2. Any physician, properly accredited as a delegate, shall be admitted during the session of the Institute to all the privileges of members, except voting and eligibility to office, on the following basis:

First. From every association composed of more than fifty members from different States, two delegates, with an additional delegate for every twenty members.

Second. From every State Society, two delegates, with an additional delegate for every twenty members.

Third. From every county or local society, one delegate.

Fourth. From every college, hospital, asylum for the insane, or dispensary, actually established, one delegate.

Fifth. From every medical journal published one delegate.

Such delegates shall be elected for the term of one year.

SECTION 3. Any foreign physician may be elected a Corresponding Member of the Institute at any annual meeting, and shall have all the privileges of members except voting and eligibility to office.

SECTION 4. The Institute may, at any annual meeting, elect as Honorary Members, not to exceed five in one year, any foreign

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physicians who may be judged worthy from their superior attainments in medicine; provided that the names of persons proposed for Honorary Membership shall have been presented at a previous annual meeting. Such Honorary Members shall have all the privileges of members except voting and eligibility to office.

SECTION 5. All members of the Institute who have maintained twenty-five consecutive years of membership shall be considered *Senior Members*, and be exempt from the payment of annual dues; and the names of such members shall be printed first in the list of members, in capital letters.

SECTION 6. Of State Societies represented in the Institute, the Presidents shall be *ex-officio* Vice-Presidents, and the Recording Secretaries shall be *ex-officio* Corresponding Secretaries of the Institute, and these officers shall communicate through the various bureaus any facts or information concerning the condition of these societies, and the progress of medicine and homœopathy in their several States.

ARTICLE VI.—DUES.

SECTION 1. Members shall pay annually the sum of seven dollars toward defraying the expenses of the Institute. The Proceedings of the Institute will be sent to those members only who have paid their dues.

ARTICLE VII.—BUREAUS AND COMMITTEES.

SECTION 1. There shall be a Bureau of Materia Medica, Pharmacy, and Provings, consisting of at least nine members, which shall collate facts relating to the materia medica and pharmacy, and institute, collect and arrange provings of drugs.

SECTION 2. There shall be a Bureau of Clinical Medicine, consisting of at least nine members, which shall collect facts relating to clinical medicine generally, and especially to any endemic or epidemic diseases which may exist in the country.

SECTION 3. There shall be a Bureau of Obstetrics, consisting of at least nine members, which shall collect and report to the Institute facts and observations on subjects pertaining thereto.

SECTION 4. There shall be a Bureau of Gynæcology, consisting of at least nine members, which shall collect and report to the Institute facts and observations relating to the diseases of women.

SECTION 5. There shall be a Bureau of Pædology, consisting of at least nine members, which shall collect and report to the

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Institute facts and observations relating to the diseases of children.

SECTION 6. There shall be a Bureau of General Sanitary Science, Climatology, and Hygiene, consisting of at least nine members, which shall report to the Institute facts and observations relating to these departments.

SECTION 7. There shall be a Bureau of Surgery, consisting of at least nine members, which shall report upon all improvements in surgery.

SECTION 8. There shall be a Bureau of Organization, Registration, and Statistics, consisting of at least seven members, which shall keep a register of all homœopathic physicians, or those who claim to be such, in the United States, distinguishing those who are members of the Institute, and also members of the State societies; prepare a list of all State and local societies, colleges, hospitals, asylums, dispensaries and journals, with their organization; and collect statistics regarding homœopathy, its status and progress.

SECTION 9. There shall be a Bureau of Anatomy and Physiology, consisting of at least nine members, which shall report to the Institute the advances made in these departments of medical science.

SECTION 10. There shall be a Bureau of Psychological Medicine, consisting of at least seven members, which shall report to the Institute the results of the homœopathic treatment of psychological diseases.

SECTION 11. There shall be a Bureau of Ophthalmology, Otology and Laryngology, to consist of at least seven members, which shall report to the Institute improvements in these departments.

SECTION 12. There shall be a Bureau of Microscopy, consisting of at least five members, which shall institute examinations and report annually all discoveries and improvements in that department of science.

SECTION 13. There shall be a Committee on Legislation, consisting of at least five members, which shall look after all matters of legislation affecting the interests of the Institute and its members.

SECTION 14. There shall be a Committee on Literature, consisting of at least five members, which shall report annually on homœopathic literature.

SECTION 15. There shall be a Committee on Foreign Correspondence, consisting of at least five members, which shall correspond with foreign homœopathic physicians on matters relating to homœopathy, and report annually to the Institute. All

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members of the Institute travelling abroad shall be considered members of the said committee, and the names of all such who may furnish communications from abroad at any annual meeting of the Institute shall be published with those constituting said committee in the annual volume of the proceedings of this body.

SECTION 16. Immediately after the reception of the reports of the respective bureaus and committees the Institute shall proceed to the election of a chairman for the bureau or committee for the ensuing year; and the chairman thus elected shall appoint the other members of his bureau or committee, and announce the appointments to the Institute, through the President, before the close of the session of the Institute. No member of the Institute shall be chairman of more than one bureau or standing committee. No member of a bureau shall be reappointed to that bureau who has failed to present a paper to the Institute for two consecutive years. If any member of a bureau shall resign, or decline to serve, the chairman of the bureau may fill the vacancy, and shall notify the General Secretary of the fact.

SECTION 17. Each chairman of a bureau shall convene the members of his bureau as soon as may be after their appointment, at which time there shall be selected a special subject to be reported on by them, or to be discussed by the Institute at its next annual session.

SECTION 18. The chairmen of similar bureaus in State societies represented in the Institute shall be *ex-officio* corresponding members of the bureaus.

SECTION 19. No report or paper will be received by the Institute in an incomplete or unfinished condition; and no paper shall be published in the *Transactions* which has been previously published. All reports and papers which are to be published in the *Transactions* shall be furnished to the General Secretary within thirty days after the close of the session.

SECTION 20. The Executive Committee shall constitute the Committee of Publication.

ARTICLE VIII.—AMENDMENTS.

These by-laws may be altered or amended by a vote of two-thirds of the members present at any annual meeting.

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ORDER OF BUSINESS.

Calling meeting to order.
Address by the President.
Appointment of committee to consider and report on suggestions of the President.
Report of the Secretary.
Report of the Treasurer.
Appointment of committee to audit Treasurer's account.
Reports of committees.
Reports of bureaus.
Hearing reports of delegates from societies and institutions.
Unfinished business from last meeting.
Miscellaneous business.
Election of officers.
Adjournment.

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LIX.

RESOLUTIONS.

ADOPTED JUNE 13, 1850.

Resolved, That, in the opinion of this Institute, all methods of arriving at the curative properties of a drug, except by means of its pathogenetic effects, are uncertain.

ADOPTED JUNE 12, 1851.

Resolved, That members of the Institute who may change their place of residence are hereby requested to give notice of such change to the General Secretary.

ADOPTED JUNE 8, 1854.

Resolved, That all committees appointed to report on scientific subjects, failing to report within one year after their appointment, shall be discontinued, except by a vote of two-thirds of the members present.

Resolved, That we regard the homœopathic law as coextensive with disease, and that a resort to any other medicinal means than those pointed out by the law *similia similibus*, is the result, in part, of the incompleteness of our Materia Medica, but mainly the result of a want of sufficient knowledge, on the part of the physician, of those remedies already possessed by our school, and not of an insufficiency of the homœopathic law.

Resolved, That the pharmaceutists of the homœopathic school be recommended to use, in the preparation of drugs by trituration, the proportions of ten grains of the drug to ninety grains of sugar of milk; and, for the sake of uniformity, to retain the numerical designation adopted by Hahnemann, and continued by the majority of homœopathic physicians.

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ADOPTED JUNE 7, 1855.

Resolved, That the Institute cannot view the advertising of remedies as nostrums, or the combining of several medicines in one prescription, in any other light than as irregular practice, and subversive of the best interests of homœopathy; and that we will not tolerate in our membership one guilty of such practice.

ADOPTED JUNE 5, 1856.

Resolved, That, in accordance with the usage and dignity of scientific bodies, which very properly discountenance all extraordinary efforts on the part of members of such bodies to enhance individual interest, we, as an associated scientific body, will discountenance all like extraordinary efforts on the part of members of this Institute; and whenever such cases come to our knowledge well authenticated, we will sever such members from our connection, as no longer worthy of our sympathy and fellowship.

ADOPTED JUNE 4, 1857.

Resolved, That it is the duty of the American Institute of Homœopathy to extend a fostering care to the homœopathic medical colleges of the United States, and exert its influence in directing students of medicine who are seeking admission to the honors of the profession to their halls for instruction.

Resolved, That the American Institute of Homœopathy does not necessarily indorse the doctrines contained in the reports of committees by accepting and publishing such reports with the proceedings.

ADOPTED JUNE 2, 1859.

Resolved, That in all publications of the Institute, whenever attenuations, dilutions or potencies are mentioned, the centesimal scale is implied, unless a different scale is expressed.

Resolved, That, in the case of such papers ordered for publication as are objectionable on account of their length, the Publishing Committee may, with the consent of the authors, abbreviate the same, or suspend the publication thereof, until otherwise instructed.

ADOPTED JUNE 7, 1866.

Resolved, That members who are three years in arrears, and who do not pay within one year after being so notified by the

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Treasurer, shall be considered as having forfeited membership, and their names shall be stricken from the list.

Resolved, That, while we approve the establishment of life insurance companies which make a distinction in favor of the patrons of homœopathy, and while we desire to encourage such organizations, nevertheless with a view to impartiality, we hereby forbid the use of the name of the American Institute of Homœopathy in any manner calculated to advertise or promote the interest of one such company in preference to another.

ADOPTED JUNE 7, 1867.

Resolved, That, in the organization of life insurance companies which discriminate in favor of practical homœopathists, we recognize an important instrumentality, which by showing the superiority of homœopathic treatment, will contribute to the more rapid adoption of the principles of medical science promulgated by the illustrious Hahnemann; and that, whenever practicable, the members of this Institute will give to such organization a united and cordial support.

ADOPTED JUNE 9, 1869.

Resolved, That properly qualified physicians, men or women, are eligible to membership of the American Institute of Homœopathy.

Resolved, That the Secretary be instructed to publish the forthcoming volumes of the *Transactions* so as to correspond with the general plan followed during the last two years.

Resolved, That the Bureau of Clinical Medicine be requested to give attention to the collection of clinical verifications of the symptoms contained in our Materia Medica, and to include such verifications in their reports, with whatever details they deem proper, giving credit to the authors.

Resolved, That the Institute invite State societies to co-operate in this work of clinical verification of the Materia Medica.

ADOPTED JUNE 8, 1870.

Resolved, That the Censors be required to state in what medical college and year the applicant for membership graduated, and that this statement be published with the names of the members after their admission.

Resolved, That the reading of reports of committees be limited to fifteen minutes, and if said reports are too lengthy to be read

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within that time, the committee shall present a brief statement of the contents of the report, or read by title, as they elect, before it is referred to the appropriate committee.

Resolved, That the Institute order the preparation of a homœopathic dispensatory, to be submitted to the Institute before publishing, and direct the President to consider the suggestion of the Committee on a Dispensatory, concerning the plan and selection of the committee.

Resolved, That each member of the American Institute will best subserve the interest of homœopathic medicine by using great care to avoid accepting any student of medicine into his office who does not or cannot give evidence of possessing the preliminary education recommended in the report of the Committee on Education.

Resolved, That the resolution relating to qualification apply to all students whose term of pupilage shall commence subsequent to the year 1870, and that every effort be made to acquaint the profession at large with the action of the Institute.

Resolved, That candidates for membership in this Institute, who shall have graduated later than 1873, shall be required to present evidence of having attained the standard of qualification adopted by this Institute.

ADOPTED JUNE 9, 1874.

Resolved, That hereafter all provings by a single prover, presented through the Bureau of Materia Medica, Pharmacy, and Provings, be referred back to the bureau, to be retained by them until a sufficient number of provings are obtained to warrant the bureau in collating the same and presenting them to the Institute for publication; and such collation and presentation shall be a part of the duty of that bureau.

ADOPTED JUNE 10, 1874.

Resolved, That the Committee on Climatology of the American Institute of Homœopathy be, and they are hereby instructed, to secure reports from the chief points of observation of the Signal Service of the United States Army, establishing the prevalence of various diseases at those points from time to time.

ADOPTED JUNE 11, 1874.

Resolved, That the American Institute of Homœopathy cordially and earnestly recommends all homœopathic colleges in this country to adopt a uniform system of education and requirement;

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and to this end would further recommend to each homœopathic college to appoint one or more members of its faculty to constitute an Intercollegiate Committee, whose duty it shall be to recommend and adopt such rules of comity and other measures as will further the above object.

ADOPTED JUNE 12, 1874.

Resolved, That hereafter any member of the Institute who shall publish, or cause to be published, any report or paper read before the Institute, accepted and referred to the Committee of Publication, elsewhere than in the regular volume of *Transactions*, shall be deemed guilty of an offence, which shall subject the member offending to the censure of the Institute.

Resolved, That the bureaus of the Institute that pertain to practical medicine and surgery be hereafter arranged in rotation, so that each one may come first in its turn in successive years.

ADOPTED JUNE 15, 1875.

Resolved, That *Sectional Meetings* of any bureau may be held at the call of the chairman of that Bureau, provided such meetings are not held during the sittings of the Institute.

Whereas, It is now a difficult matter to obtain mortuary reports from many of our cities and towns, therefore

Resolved, That this body would recommend to the members of the Institute, that they, in their respective cities and towns, where published reports are to be had, obtain and furnish annually to the Bureau of General Sanitary Science, Climatology and Hygiene, a copy of such published reports; and further, that when such reports are made up, State statistical mortuary reports be likewise sent to this bureau.

Resolved, That in States, cities, and towns where these reports are not made and published, they be urged to publish them for the general good of the country, as well as for local advantages.

ADOPTED JUNE 27, 1877.

Resolved, That all papers rejected by the Committee of Publication and not published with the *Transactions* of the Institute, be referred back to their authors by the General Secretary, to be disposed of as they may see fit.

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ADOPTED JUNE 27, 1877.

Resolved, First. That the annual dues be raised to seven dollars.

Second. That the General Secretary be elected for five years, and the incumbent be removable for cause only.

Third. That the General Secretary be paid an annual salary of one thousand dollars; and in view of the foregoing, he is hereby instructed to issue the annual volume of *Proceedings* within three months after the close of the session, and deliver the same without expense to each member entitled to receive it.

ADOPTED JUNE 29, 1877.

Resolved, First. That the Committee of Arrangements in preparing the Order of Business for future meetings of the Institute, be requested to set apart a certain time for hearing reports from delegates from institutions and societies who may be present at the meeting, such reports to be limited to five minutes each.

Second. That the Committee on Credentials be discontinued, and the duties heretofore performed by that Committee be performed by the Bureau of Organization, Registration, and Statistics.

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LX.

MEMBERS.

The ? denotes that the residence is doubtful; the figures show the date of membership. Members are requested to inform the General Secretary of any change in the address of any of the members.

The following resolution, passed June, 1866, went into effect June, 1867:

Resolved, That members who are three years in arrears, and who do not pay within one year after being so notified by the Treasurer, shall be considered as having forfeited membership, and their names shall be stricken from the list.

SENIOR MEMBERS.

1846. Annin, J. D., M.D., Newark, N. J.
1844. Ball, Alonzo S., M.D., 43 W. 11th St., New York.
1848. Barrows, George, M.D., Taunton, Mass.
1846. Barrows, Ira, M.D., Providence, R. I.
1846. Bayard, Edward, M.D., 8 W. 40th St., New York.
1846. Belcher, George E., M.D., 43 E. 21st St., New York.
1846. Berens, Bernard, M.D., 1507 Arch St. Philadelphia.
1846. Berens, Joseph, M.D., S. W. cor. Broad and Green Sts., Philadelphia.
1845. Boardman, J. C., M.D., Trenton, N. J.
1848. Burke, A. C., M.D., 142 Union St., Brooklyn, N. Y.
1844. Cator, H. Hull, M.D., Roxbury, N. Y.
1847. Chase, Hiram L., M.D., Cambridge, Mass.
1846. Clark, Eliphalet, M.D., Portland, Me.
1844. Clark, Luther, M.D., 55 E. Newton St., Boston, Mass.
1850. Clark, J. K., M.D., 11 Kearney St., San Francisco, Cal.
1851. Collins, H. A., M.D., Springfield, Mass.
1848. Cook, Abijah P., M.D., Hudson, N. Y.
1848. Cummings, J. M., M.D., Portland, Me.

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1851. DENISON, JEREMIAH T., M.D., Fairfield, Conn.
1844. DETWILER, H., M.D., Easton, Pa.
1847. DODGE, MOSES, M.D., Portland, Me.
1848. DONOVAN, THOMAS W., M.D., Tompkinsville, Staten Island, N.Y.
1847. DOUGLAS, J. S., M.D., Milwaukee, Wis.
1846. EHRMAN, BENJAMIN, M.D., 46 W. 7th St., Cincinnati, O.
1846. EHRMAN, F., M.D., 84 W. 7th St., Cincinnati, O.
1850. FOOTE, GEORGE F., M.D., Stamford, Conn.
1844. FULLER, MILTON, M.D., 35 Essex St., Boston, Mass.
1844. GALLUPE, WILLIAM, M.D., Bangor, Me.
1851. GAMBELL, W. P., M.D., 2 Rutland St., Boston, Mass.
1849. GARDINER, DANIEL R., M.D., Norristown, Pa.
1844. GRAY, JOHN F., M.D., Fifth Avenue Hotel, New York.
1848. GUERNSEY, EGBERT, M.D., 18 W. 23d St., New York.
1846. GUERNSEY, HENRY N., M.D., 1423 Chestnut St., Phila.
1847. GUY, SAMUEL S., M.D., 179 Remsen St., Brooklyn, N.Y.
1846. HALLOCK, LEWIS, M.D., 34 E. 39th St., New York.
1846. HELMUTH, WM. S., M.D., 1904 Spruce St., Philadelphia.
1846. HEMPEL, CHARLES J., M.D., Grand Rapids, Mich.
1844. HERING, CONSTANTINE, M.D., 112 N. 12th St., Philada.
1846. HOLT, DANIEL, M.D., Lowell, Mass.
1844. JEANES, JACOB, M.D., 521 Vine St., Philadelphia.
1846. JONES, E. DARWIN, M.D., Albany, N.Y.
1848. KEEP, LESTER, M.D., corner Gates and Vanderbilt Avs., Brooklyn, N.Y.
1844. KIMBALL, DANIEL S., M.D., Sackett's Harbor, N.Y.
1848. KOCH, A. W., M.D., 118 N. 12th St., Philadelphia.
1845. LIPPE, ADOLPH, M.D., 1204 Walnut St., Philada.
1844. MCMANUS, F. R., M.D., 71 Franklin St., Baltimore, Md.
1845. MCVICAR, J. A., M.D., 130 E. 17th St., New York.
1844. MANCHESTER, CHARLES F., M.D., 49 Main St., Pawtucket, R. I.
1848. MARCY, ERASTUS E., M.D., 1 W. 34th St., New York.
1848. MUNGER, ERASTUS A., M.D., Waterville, N.Y.
1844. NEIDHARD, CHARLES, M.D., 1511 Arch St., Philada.
1848. NORTON, LUCIAN H., M.D., Bridgeport, Conn.
1844. PAINE, HENRY D., M.D., 26 West 30th St., New York.
1850. PAINE, HORACE M., M.D., Albany, N.Y.
1852. DAKE, JABEZ P., M.D., 47 N. Vine St., Nashville, Tenn.
1852. HAMMOND, MILTON, M.D., 57 N. Paca St., Baltimore, Md.
1852. STEVENSON, T. C., M.D., Carlisle, Pa.
1848. PALMER, MILES W., M.D., 235 E. 18th St., New York.
1847. POOLE, AUGUSTUS, M.D., 232 W. 1st St., Oswego, N.Y.

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1844. PULTE, JOSEPH H., M.D., 293 Walnut St., Cincinnati, O.
1848. RAYMOND, JONAS C., M.D., 248 Genesee St., Utica, N. Y.
1848. READING, J. R., M.D., Somerton, Pa.
1846. RHEES, MORGAN J., M.D., Newtonville, Mass.
1847. RICHARDSON, EDW. T., M.D., 141 Montague St., Brooklyn, N. Y.
1849. RODMAN, WILLIAM W., M.D., New Haven, Conn.
1844. ROBINSON, HORATIO, M.D., Auburn, N. Y.
1848. RUSSELL, GEORGE, M.D., 14 Lynde St., Boston, Mass.
1847. SAWYER, B. E., M.D., Haverhill, Mass.
1844. SCHMIDT, J., M.D., 92 Eutaw St., Baltimore, Md.
1847. SHACKFORD, RUFUS, M.D., Portland, Me.
1846. SHEPARD, A., M.D., Glendale, O.
1857. SHIPMAN, GEORGE E., M.D., Chicago, Ill.
1846. SMALL, ALVIN E, M.D., 583 Wabash Av., Chicago, Ill.
1848. SMITH, D. S., M.D., 402 Michigan Av., Chicago, Ill.
1850. SPRINGSTEED, DAVID, M.D., Albany, N. Y.
1846. STEVENS, C. A., M.D., Scranton, Pa.
1844. SWAZEY, GEORGE W., M.D., Springfield, Mass.
1848. TAFT, CHARLES A., M.D., Hartford, Conn.
1847. THAYER, DAVID, M.D., 94 Boylston St., Boston, Mass.
1844. WARD, ISAAC M., M.D., Newark, N. J.
1844. WARD, WALTER, M.D., Mount Holly, N. J.
1848. WARNER, LEWIS T., M.D., 39 E. 19th St., New York.
1844. WELD, C. M., M.D., Norfolk House, Boston Highlands, Mass.
1848. WELLS, LUCIEN B., M.D., 225 Genesee St., Utica, N.Y.
1844. WELLS, P. P., M.D., 84 Clinton St., Brooklyn, N. Y.
1847. WHITTLE, JOSHUA F., M.D., Nashua, N. H.

MEMBERS.

1870. Abell, D. T., M.D., Sedalia, Mo.
1872. Abercrombie, Wm. H., M.D., Jersey City, N. J.
1871. Adams, Myron H., M.D., Palmyra, N. Y.
1860. Ahlborn, Henry, M.D., 76 Charles St., Boston, Mass.
1867. Albertson, J. A., M.D., 109 O'Farrell St., San Francisco, Cal.
1871. Allen, Richard C., M.D., 4708 Paul St., Frankford, Philadelphia.
1871. Allen, Samuel E., M.D., Trenton, N. J.
1866. Allen, Timothy F., M.D., 10 East 36th Street, New York.
1872. Allen, Henry C., M.D., Brantford, Ontario.
1873. Adams, Julia A., M.D., Corry, Pa.

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1876. Adams, Reuben A., M.D., Rochester, N.Y.
1873. Allen, George D., M.D., Portland, Mich.
1860. Alley, James T., M.D., St. Paul, Minn.
1875. Alling, C. P., M.D., Dunkirk, N. Y.
1868. Alvord, Samuel, M.D., Chicopee Falls, Mass.
1874. Anderson, Jeremiah, M.D., Rochester, N. Y.
1876. Andrews, Purnell W., M.D., Camden, N. J.
1871. Andrews, Wm. J., M D., Newark, N. J.
1853. Angell, Henry C., M.D , 16 Beacon St., Boston, Mass.
1869. Arcularius, Philip E., M.D., 57 E. 21st St., New York.
1873. Armstrong, W. P., M.D., Lafayette, Ind.
1869. Arthur, A. A., M.D., Vergennes, Vt.
1874. Arthur, Charles, M.D., Scranton, Pa.
1858. Ashton, A. H , M.D., 730 S. 10th St., Philadelphia.
1871. Aten, Henry F., M.D., 34 Hanson Place, Brooklyn, N.Y.
1875. Austin, John, M.D , Norwalk, O.
1868. Bacmeister, Theodore, M.D., Toulon, Ill.
1871. Bacon, Charles A., M.D., 104 E 35th St., New York.
1867. Baer, O. P., M.D., Richmond, Ind
1874. Baethig, Henry, M.D., Buffalo, N. Y.
1870. Bagley, H. B., M.D , Marshall, Mich.
1875. Bahrenburg, William N., M.D., 2409 N. 14th St., St. Louis, Mo.
1867. Bailey, George W., M D., Elizabeth, N. J.
1874. Bailey, Silas, M.D., Toledo, O.
1872. Baker, Mary G., M.D., Worcester, Mass.
1875. Baker, Milton H., M.D., Highland Park, Ill.
1871. Baldwin, Aaron, M.D , 1017 M. St., N. W., Washington, D. C.
1876. Baldwin, Harry D., M.D., Montrose, Pa.
1857. Baldwin, Jared G., M.D., 8 E. 41st St., New York.
1870. Bancroft, A. A., M.D., Lansing, Mich.
1866. Bauer, William J., M.D., 13 E. 33d St., New York.
1876. Banks, James O., M.D., Philadelphia.
1867. Barker, William C., M.D., Waukegan, Ill.
1853. Barnes, George W., M.D., San Diego, Cal.
1875. Barr, Frank H., M.D., Cleveland, O.
1868. Barrows, George S., M.D., San Jose, Cal.
1857. Bartlett, A. R., M.D., Aurora, Ill.
1867. Bartlett, Edward G., M.D., 43 E. 11th St., New York.
1873. Bartlett, Henry H., M.D., Ashtabula, O.
1874. Bass, Edgar C., M.D., Cazenovia, N. Y.
1868. Baxter, H. H., M.D., Cleveland, O.
1867. Baylies, B. L. B., M.D , Astoria, N. Y.
1870. Beaumont, John H., M.D., Freeport, Ill.

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1868. Bancroft, Walton, M.D., Keokuk, Iowa.
1877. Barrett, Albert R., M.D., Nashville, Tenn.
1869. Becker, Benjamin, M.D., Pottsville, Pa.
1869. Beebe, A. G., M.D., 64 Park Ave., Chicago, Ill.
1876. Beebe, Harry E., M.D., Sidney, O.
1876. Bennett, Robert A., M.D , Dover, N. J.
1865. Beckwith, D. H., M.D., Cleveland, O.
1871. Beckwith, E. C., M.D., Columbus, O.
1857. Beckwith, Seth R., M.D., 161 W. 7th St., Cincinnati, O.
1875. Bedell, R. Heber, M.D., Madison Av. near 175th St., New York.
1868. Bell, James B., M.D., Augusta, Me.
1867. Bell, James S., M.D., Cedar Falls, Iowa.
1857. Bell, William C., M.D., Middletown, Conn.
1877. Bellows, Howard P., M.D., Boston, Mass.
1872. Bender, Prosper, M.D., Quebec, Dominion of Canada.
1872. Benham, F. A., M.D., Angola, Ind.
1875. Bennett, Asahel M., M.D., Rochester, N. Y.
1869. Bennett, Hollis K., M.D., Fitchburg, Mass.
1865. Benson, P. Oscar C., M.D., Skaneateles, N. Y.
1874. Bennit, William W., M.D., 921 New York Avenue, Washington, D. C.
1872. Berghaus, Alex., M.D., 49 W. 24th St., New York.
1870. Betts, B. Frank, M.D., 1700 Girard Av., Philadelphia.
1869. Bevin, William A., M.D., Trenton, N. J.
1854. Bigelow, Franklin, M.D., 110 S. Salina St., Syracuse, New York.
1868. Biggar, Hamilton F., M.D., Cleveland, O.
1876. Bigler, William H., M.D., Philadelphia, Pa.
1871. Bingaman, C. F., M.D., 294 Penn. Av., Pittsburg, Pa.
1854. Bishop, D. F., M.D., Lockport, N. Y.
1869. Bishop, Herbert M., M.D., Norwich, Conn.
1870. Bishop, Lewellyn A , M.D., Fond du Lac, Wis.
1869. Bishop, R. S., M.D., Medina, N. Y.
1853. Bissell, Arthur F., M.D., 157 Maiden Lane, N. Y.
1872. Blake, Mary J. Safford, M.D., 16 Boylston Pl., Boston, Mass.
1869. Bloss, J. P., M.D., Troy, N. Y.
1865. Boericke, F. E., M.D., 635 Arch St., Philadelphia, Pa.
1874. Bollen, Geo. M., M.D., Port Adelaide, South Australia.
1874. Bond, Mary E., M.D., 122 Lexington Av., New York.
1866. Borland, W. C., M.D., Pittsburg, Pa.
1875. Bosley, S. Clement, M.D., Lost Creek, W. Va.
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1866. Boyce, C. William, M.D., Auburn, N. Y.
1870. Boyer, Francis W., M.D., Pottsville, Pa.
1874. Boynton, Frank H., M.D., 151 Lexington Av., New York.
1860. Bradford, F. Standish, M.D., 55 W. 34th St., New York.
1871. Bradford, Herbert C., M.D., Lewiston, Me.
1869. Bradford, Thomas L., M.D., 901 N. 8th St., Philadelphia.
1853. Brainerd, Jehu, M.D., Washington, D. C.
1877. Branstrupp, William T., M.D., Vincennes, Ind.
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1873. Bradford, Oliver L., M.D., Andover, Mass.
1874. Bradner, Fred. H., M.D., Middletown, N. Y.
1869. Breyfogle, Charles W., M.D., San José, Cal.
1873. Breyfogle, W. L., M.D., Louisville, Ky.
1875. Breyfogle, Edwin S., M.D., San José, Cal.
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1876. Bronson, Benjamin F., M.D., Bridgeport, Conn.
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1868. Budlong, John C., M.D., Centredale, R. I.
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1870. Bushnell, Lafayette, M.D., 302 E. 12th St., New York.
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1874. Carmichael, James A., M.D., New York.
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1873. Caruthers, R. E., M.D., 67 Arch St., Alleghany, Pa.
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1876. Cate, William, M.D., Salem, Mass.
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1871. Drake, Olin M., M.D., Ellsworth, Me.
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1872. Edson, Susan A., M.D., 1308 I St., N. W., Washington, D. C.
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1872. Everett, Mary H., M.D., 333 W. 34th St., New York.
1875. Everett, Ambrose S., M.D., St. Louis, Mo.
1871. Fager, Charles B., M.D., Harrisburg, Pa.
1867. Fanning, Thomas C., M.D., Tarrytown, N. Y.
1859. Farnsworth, Charles H., M.D., E Cambridge, Mass.
1872. Farrington, E. A., M.D., 1616 Mt. Vernon St., Philadelphia.
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1868. Finch, Edward W., M.D., New Rochelle, N. Y.
1855. Fincke, Bernhardt, M.D., 122 Livingston St., Brooklyn, N. Y.
1875. Finley, R. S., M.D., Xenia, O.
1873. Fisher, A. Le Roy, M.D., Elkhart, Ind.
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1869. Fowler, Edward P., M.D., 23 W. 33d St., New York.
1867. Franklin, E. C., M.D., 1402 Olive St., St. Louis, Mo.
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1875. Frantz, F. F., M.D., Lancaster, Pa.
1873. Frazier, Jerome B, M.D., Conneautville, Pa.
1858. Freeman, W., M.D., 39 W. 36th St., New York.
1860. Freeman, Wm. E., M.D., Wilmington, N. C.
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1874. Fulton, Henry W., M.D., Pittsburg, Pa.
1859. Gale, Stephen M., M.D., Newburyport, Mass.
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1865. Garside, W. R., M.D., 63 Greene Ave., Brooklyn, New York.
1871. Garbereich, E. W., M.D., Mechanicsburg, Pa.
1869. Gardiner, M. M., M.D., Utica, N. Y.
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1873. Gaylord, E. P., M.D., Toledo, O.
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1877. Geppert, James P., M.D., Cincinnati, O.
1859. Gersdorff, E. B. de, M.D., 138 Boylston St., Boston, Mass.
1869. Gifford, Gilbert L., M.D., Hamilton, N. Y.
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1876. Gordon, Peter A., M.D., Flemingsburg, Ky.
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1855. Gregg, Rollin R., M.D., 42 S. Division St., Buffalo, New York.
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1871. Higbee, Chester G., M.D., St. Paul, Minn.
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1874. Hunt, Dwight B., M.D., 50 W. 29th St., New York.
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1859. James, Bushrod W., M.D, N.E. corner 18th and Green Sts., Philadelphia.
1866. James, J. E., M.D., N. W. corner 10th and Green Sts., Philadelphia.
1867. Jayne, De Witt C., M.D., Florida, N. Y.
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1859. Jefferds, George P., M.D., Bangor, Me.
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1874. Johnson, Joseph D., M.D., Hartford, Conn.
1854. Jones, Elijah U., M.D., Taunton, Mass.
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TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME II. NUMBER 2.

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6. Summary of Symptoms observed when no Drug was taken.
7. Analysis of the Provings of Carbo vegetabilis.
8. Summary of Hahnemann's Head Symptoms.
9. Summary of the Head Symptoms of the Provers.
II. Negative Results and Conclusions concerning them.
III. Records of Provers of Carbo vegetabilis.
IV. The Symptoms arranged according to Parts of the Body.
V. Symptoms observed without Medicine.

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LIST OF PROVERS.

WM. OWENS, M.D., presents provings from Mr. Wm. Owens, Jr., Mr. D. M. Dysert, Mr. J. R. Huss, Mr. Henry Hanby, Mr. Thos. L. Brown, Mr. Wm. E. Gill.

T. S. HOYNE, M.D., presents provings by himself and Mr. W. A. Cain, Messrs. E. E. Holman and I. Todd.

F. J. M. WHITCOMB, M.D., presents provings by herself and Mr. S. G. Aldrich, S. M. W., W. B. W., and Mrs. M. D. Crane.

C. WESSELHŒFT, M.D., presents provings by himself and E. B. De Gersdorff, M.D., H. L. Chase, M.D., and H. C. Clapp, M.D.

Provers who recorded their symptoms without medicine before proving Carbo: Mrs. Flora H. Stanford, Miss J. A. Marshall, Mr. R. R. Trotter, Miss M. Mason, Mr. C. Leeds, and Mrs. H. H. Cobb.

Besides the above, sixteen members of the Boston University School of Medicine recorded their symptoms during several weeks without having taken the Carbo.

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IV.

A REPROVING OF CARBO VEGETABILIS,

MADE FOR THE PURPOSE OF DEMONSTRATING THE NECESSITY OF COUNTER-TESTS IN DRUG-PROVING.

INTRODUCTION, BY CONRAD WESSELHŒFT, M.D., BOSTON.

ALTHOUGH the record here presented is in a measure the continuation of the work of past years, this proving was undertaken not only for the purpose of adding new symptoms to the pathogenesis of Carbo and to corroborate old ones, but its object also was to apply other tests to our accustomed method of proving drugs. The means employed and advocated here are not claimed as new and original; they had long been suggested by the founder of our school, as well as by others. The rules given by Hahnemann, if followed, permit of a very close approximation to the truth; but they have not been as rigidly obeyed as they should have been to satisfy the demands of our school nor the behest of the master. The reason is twofold: partly because it was impossible to obey the conditions as stated, and partly because experimenters were too easily satisfied with the results.

To state the case in its most unequivocal form, we have not sufficient proof that symptoms obtained by the ordinary method are due to the drug tested, unless these symptoms cannot be attributed to any other cause. In like manner we have no proof that a cure has been caused by a medicine unless we have sufficient evidence to prove that the disease could not, and did not, terminate from another cause.

It would not be just to insist that science can or will furnish us with mathematical proofs applicable to pathology or thera-

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peutics; but we have a right and duty to impose on ourselves the task of finding much stronger evidence regarding the validity of pathogenetic and therapeutic results than we have been accustomed to content ourselves with. Each physician may individually be assured of the genuineness of his results in regard to provings as well as of cures; but we should place ourselves in a position to demonstrate facts to others, and never expect them to believe what we cannot prove or what is quite open to many valid objections.

In order to arrive at a more accurate result, different ways and means of experimentation should henceforth be adopted, by adding precautionary measures and counter-tests to our method of experimentation, as practiced in every branch of science. Homœopathy demands, and Hahnemann forcibly insisted, that a pure Materia Medica should consist of undoubted facts, and that it should be free from conjectures and mere assertions.

The pure Materia Medica demands that only the drug symptoms should be recorded. But now, since it is a well-known fact that all persons proving a drug begin to observe themselves closely at that time only, while they neglect to do so before or afterwards, the consequence is that the class of provers we have mostly to depend on, *i. e.*, laymen and students, mingle a great many symptoms with those derived from the drug which are not peculiar to it but peculiar to the prover only. But we assumed this to be a hypothesis which needed confirmation, and though demanded by the peculiar exigencies of our method, and insisted on by its founder, it has rarely been carried out to a sufficient extent, or if so, the manner and degree of its execution have not been stated.

These remarks apply to the reproving of Sepia, as well as other provings made by the Bureau since I have had the honor of being connected with it.

I therefore proposed to adopt a more accurate method of discovering what is due to drug action, and have accordingly proceeded as follows: A sufficient quantity of the first, second, and third triturations of *Carbo vegetabilis*, prepared according to the centesimal scale by Dr. S. Whitney, of Boston, was distributed among the members of this Bureau, with the recommendation to

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obtain as many provers as possible, and urging *that each should note his or her symptoms for some time before taking the medicine;* or if that method of self-examination should not be practicable, to let provers take pure sugar of milk for a time and to note symptoms.

It may have been observed by members of the Institute that the plans of this Bureau were not heralded in the journals, for the reason that it was undesirable to bias the minds of provers by knowledge of the substance they were proving and the method employed. Though nearly all the members of this Bureau, and many others, promptly responded to the circular addressed to them, they did not follow the suggestion of noting symptoms of their provers previous to taking the medicine. Nevertheless, I have to thank them for many elaborate and faithful records of their endeavors. It should be remarked in this place that no prover was limited to the use of the three triturations, as it seemed preferable that each should make his own attenuations rather than to receive each preparation by express, thereby exposing it to deterioration. None of the provers, however, diluted or attenuated any of the triturations sent them, preferring to use them as they were. Some may object that the triturations were sent in paper parcels; a circumstance I did not discover till afterwards. However, certain tests to which I shall refer proved that the triturations had not suffered thereby.

Like Drs. Allen, Hoyne and Owens, it was my good fortune to have a large class of medical students, both men and women, from whom to obtain provers, and with whom I carried out the plan proposed to other members of the bureau. Accordingly I distributed a quantity of pure sugar of milk among my provers, who were unacquainted with what they took, and in the course of six weeks obtained voluminous records of sensations experienced from sixteen persons, eleven of whom were women and five men. These presented in all 919 symptoms, all obtained without having taken any medicine whatever.

The provers were selected from a class of students who were previously instructed in the method and purposes of drug-proving, and were eager to try. Some were apprehensive, and evidently summoned their fortitude for the attempt, though care had been

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taken to impress them with the assurance that no danger would result and that all fears should be dismissed, that their minds might be as free as possible from anxiety or oversanguine expectations. As far as could be ascertained, the health of these provers was good; but a certain degree of nervousness and anxiety with regard to their studies (to which as a rule students in American medical schools apply themselves too closely by attempting much in a comparatively short time), placed these provers in a state of susceptibility to mental and physical impressions which, though considerable, could not well be avoided.

Aside from such drawbacks, novices in proving are too sanguine, as a rule, especially if they are less than thirty years of age. Hence, throughout the course of my investigation, the importance of Hahnemann's statement was ever before my mind, that experienced and healthy physicians should be the best provers of drugs. But these are hard to obtain, and when prevailed on to test drugs, their results differ immensely from those of novices and students, as shown by comparison of the results of some of my colleagues and of myself with those of our students.

Annexed to this report will be found the results of self-observation of provers without medicine (V.). Though quite voluminous, it was necessary to add them to the other observation in order to consummate the object in view.

Object of this Method of Proving.

The object of this method of proving was, as stated before, to find first what symptoms were peculiar to provers; then to proceed to prove the drug itself, and thirdly, to carefully eliminate from the drug-proving those symptoms which were found to be peculiar to the prover and not to the drug. That is what Hahnemann desires, and that is precisely what our school desires today. There is no doubt that Hahnemann adhered to this plan as described by him in the Organon, and that he personally examined those of his provers who were directly under his supervision every day and after each report, verbal or written. But it is not so evident that precautions of this kind were adopted since his time.

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The results obtained by myself were of a character to impress me with the necessity not only of questioning provers, but of devising means of arriving at all the symptoms they are capable of experiencing, by notation of symptoms before proceeding with the actual proving; but the vast importance of such process would not become apparent to any who had not resorted to that method.

We have before us nearly a thousand symptoms, so called, not derived from any drug; had we remained ignorant of that fact, would we not have been justified in considering these symptoms as due to Carbo? They would have gone on record, and some time or other have swelled the already voluminous pathogenesis of Carbo, unless future members of provers' societies, committees, and bureaus should be more cautious, expert and successful than the present members of this Bureau.

A certain weak point in the attempt we herewith lay before you is, that few of the provers who observed their symptoms without medicine afterwards proved the medicine. As usual, I renewed my experience of former occasions, that provers, after first and prolific attempts, most reluctantly make a second. Thus it happened that I obtained only a few provers who, after observing their non-medicinal symptoms, proved the actual medicinal triturations. These results were also voluminous, but corresponded so closely with previous non-pathogenetic symptoms that but few real ones remained to be recorded.

Value of Symptoms without Counter-test.

The symptoms of provers who tested the drug without counter-test should, in the light of the above observations, be considered by themselves. We obtained no counter-test for their control. The only method, it appears, of judging of the value of such provings, is to retain only those symptoms which agree pathologically and in expression, and to eliminate all those, or most of those, which are different in each prover; and those retained should, furthermore, correspond with the actual drug-effects of provers whose individual or non-medicinal symptoms were eliminated.

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Specimen of Non-medicinal Symptoms.

To give you an idea of the character of the symptoms obtained without medicine, I will quote several for the sake of example. Mrs. M. recorded sensations and symptoms like the following:

1. Faintness at stomach; dry mouth; belching of wind; smarting in œsophagus. Wavelike heat from abdomen to sternum; hot pain in abdomen and flatulence; fulness in abdomen. Burning pain in rectum; diarrhœa and pain in abdomen. Catarrhal leucorrhœa. (Frontal headache, dulness of mind. Chills, flushes of febrile heat and perspiration. Toothache.) Prover thinks she took cold, to which she attributes the symptoms in brackets.

2. In another instance symptoms were recorded as follows: Tongue white, slimy; swelling of jaw and lip; eructations; spitting of food; eructations tasteless and odorless. *Head:* Watery mucus from posterior nares; burning in right parietal bone; pressure in brain beneath parietal bone; throbbing in forehead; dulness in forehead. *Abdomen:* Deepseated pain above symphysis pubis and pelvis; drawing down of umbilicus; pain around umbilicus; ineffectual desire to stool; pressing-out feeling in abdomen and stitches. *Female generative organs:* Menses thin, fetid; discharge of wind from vagina; menses fetid and too protracted; leucorrhœa and bearing down; itching of vulva; heat and dryness and bubbling of air from vagina, and yellow leucorrhœa; burning around vagina, etc., etc.

These are only samples of what sensations persons of ordinary health are capable of experiencing. Both these provers, to whose industry and fidelity we are much indebted, appeared sufficiently well to prove a drug, and did so most conscientiously, after having noted their sensations while taking sugar of milk, supposing it to be a trituration of some drug.

An equal number of non-medicinal symptoms derived from men could be quoted here by way of example, but you are herewith referred to the individual reports as annexed (V.). In order to show how the entire organism is subject to abnormal sensations, the following list is subjoined, showing how many sen-

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sations occurred in each part, and the number of times of its repetition.

These observations were most carefully compared with the actual proving, and the two above reports, as well as the rest, corresponded very closely, and oftentimes in expression and words, with the records of the actual Carbo proving. These, of course, must be considered as worthless in the case of these provers, but may be allowed to go on record here merely as an example of its kind, like which none have ever been published as far as is known to me.

SUMMARY OF SYMPTOMS OBSERVED WITHOUT HAVING TAKEN THE DRUG.

Mental and general,	95 — 24	repeated in same prover.	
Skin,	15 — 0	"	"
Sleep,	24 — 6	"	"
Circulation,	17 — 4	"	"
Head,	105 — 34	"	"
Face,	31 — 4	"	"
Eyes,	36 — 4	"	"
Ears,	6 — 0	"	"
Mouth and teeth,	39 — 10	"	"
Nose,	25 — 6	"	"
Throat,	16 — 1	"	"
Appetite and taste,	16 — 2	"	"
Stomach,	45 — 8	"	"
Abdomen,	70 — 12	"	"
Female generative organs,	37 — 7	"	"
Urinary organs,	19 — 3	"	"
Stool and rectum,	32 — 10	"	"
Neck and back,	33 — 6	"	"
Chest and sides,	52 — 7	"	"
Extremities,	52 — 6	"	"
	765—154		

It has been proposed by several members of this Bureau and by others to prove only higher and highest attenuations of Carbo, partly because the latter have not been proved to any extent, and also because the lower triturations furnish us with but few symptoms. It would appear as if the feasibility of such a course had been determined by the records of tests just cited. Let all

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potencies be tested and proved, but in every case, and without exception, let each prover note his symptoms without medicine first, till all are known. This and this alone will determine the value of actual drug-proving.

Analysis of the Proving of Carbo vegetabilis.

Hahnemann's pathogenesis of Carbo vegetabilis appeared first in vol. vi of his *Pure Mat. Med.*, where 720 symptoms are recorded. These symptoms were furnished by three persons, Dr. Adams, of St. Petersburg, Von Gersdorff, and Dr. Caspari. In 1830, this pathogenesis was transferred to the antipsorics in vol. iii of the *Chronic Diseases*, with the addition of 210 symptoms furnished by the same persons. In the last edition of the *Chronic Diseases*, vol. iv, the pathogenesis of Carbo reappears again, with the addition of 259 symptoms, amounting in all to 1189 symptoms.

It is not stated whether these symptoms were observed by the three persons above named upon themselves or whether they enlisted other provers. In the former case, each one of these persons furnished about four hundred symptoms; however, in consideration of the frequent recurrence of nearly the same symptoms, the number would actually be made smaller if the same symptoms several times repeated were considered as one.

Neither is it stated what potency or preparation was used, unless we may infer from Hahnemann's general recommendation to employ Carbo from the 3d to the 30th potency as a remedy, that this scale was also adopted for the purpose of proving. It is also fair to assume that Hahnemann exercised great care in eliminating symptoms not peculiar to the drug; a matter which in this case he could with safety intrust to the judgment of the distinguished men who proved the substance. Nevertheless, we are justified in feeling a certain degree of regret at the absence of evidence that Hahnemann's provers had first noted their individual peculiarities before proving Carbo, in view of the fact above illustrated, that apparently healthy individuals can become conscious of a great variety of symptoms without any other

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cause than the influences constantly acting from without and within upon the organism.

Time would not permit an extended comparison of Hahnemann's provings with ours; therefore only a small section of them have been reviewed and compared, and head-symptoms were selected as furnishing perhaps the most eligible points of comparison. But although this fragmentary comparison proves to be very unsatisfactory, a summary is herewith appended showing how a comparison might be made of the whole. From this fragment the two provings appear very much alike; the same monotonous and hackneyed expressions we meet with in every proving are here also represented, but when we separate the symptoms in locality, nature of sensations, conditions, etc., many points of interest are presented. Yet it is to be borne in mind that we are largely dealing with words only in these provings that convey no very definite meaning; this is only to be arrived at by pathological and histological interpretation, and is only to be done with advantage by rendering our provings perfectly reliable by applying every test most rigidly.

Summary of Hahnemann's Head-symptoms.

In the *Chronic Diseases*, vol. iii, 2d ed., eighty-five head-symptoms are enumerated, possessing the following characteristics, here condensed and separated into their various elements: Pains, pressing, 14;* heaviness, 1; tension, 3; cutting, 1; pinching, 1; drawing, 4; tearing, 12; piercing, stitches, etc., 7; boring, 2; jerking, throbbing, 6; rush of blood, 3; burning and heat, 3; humming, crackling, etc., 2.

Locality.—The forehead was referred to 10 times; occiput, 12; vertex, 8; temples, 7.

Right side, 5; left side, 8.

Conditions of Aggravation.—Touch, motion, stooping, awaking, reading.

Aggravations as to Time.—Evening, 3; afternoon; morning till evening.

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* The number of times the symptoms occurred.

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Summary of Head-symptoms of our Provers.

Twelve provers produced forty-one symptoms: dulness, 5; pressure, 4; drawing, 1; fulness, 4; rush of blood, 1; throbbing, 2; boring, 1; headache, 17; darting stitches, 2.

Locality.—Forehead, 6; vertex, 1; occiput, 4; temples, 14; eyes, 2; skull and head, 5; parietal region, 2.

Right side, 3; left side, 6.

Conditions of Aggravation.—Shaking, exercise, rising.

Aggravation as to Time.—Noon to bedtime; afternoon.

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II.

NEGATIVE RESULTS AND CONCLUSIONS CONCERNING THEM.

I WAS quite well before and during the time I took the triturations of Carbo, which began January 26th, 1877, having been too much occupied with other matters to allow quiet observation of symptoms before that date. I am quite susceptible to the effects of drugs as experienced on former occasions when proving them; and when taking medicine for any indisposition which arises from work and exposure, I find that relief is often quite prompt. I had every reason to expect, therefore, that Carbo veg. would produce its effects on me. I began with the second centesimal trituration, of which I took from one to five grains until January 29th without perceiving the least effect.

On February 10th I began to test the third trituration, taking from one to ten grains, at first once, then twice a day, without being able to record any result at all. Hence, I resolved to test the first centesimal trituration, beginning with one grain on February 16th, and gradually increasing the dose to twenty grains without producing any effect, not even a sensation of discomfort.

Surprised at this negative result, I increased the dose to one drachm, which I dissolved in some water. The result was as follows: A sweetish taste continued long in my mouth and throat. Soon a slight pressure became troublesome in the stomach; appetite and relish of food was much diminished, and I could eat but little that evening. After the meal, I had rising of a thick burning substance from the stomach to fauces, causing

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strangling; thirst for water was increased, and during the whole evening, about seven hours after the medicine was taken, flatulent distension of the abdomen set in, with a tendency to headache.

Thinking that probably not only the charcoal, but also the much greater quantity of sugar of milk might have had an effect, I concluded to make the counter-test of consuming a drachm and a half of pure sugar of milk, which I did six days after taking the Carbo trituration, the effects of which had entirely vanished. The result was as follows: Soon afterwards I felt a sweetish, sickish taste, which soon destroyed my appetite for lunch. I did not relish my food, nor did my appetite return for several days; anorexia was accompanied by bloatedness of abdomen and flatulence, together with rising of food and heartburn, all bearing a very close resemblance to the effects of the large dose of the first trituration taken.

Previous to my own attempt at proving, being very desirous of testing the triturations, I enlisted the co-operation of as many of my colleagues as I could persuade among those residing in my neighborhood. These were Drs. E. B. de Gersdorff, H. L. Chase, and H. L. Clapp, all of whom promised to obtain symptoms by careful tests. Like myself, the provers just named could obtain no result at all.

The same report came from Dr. T. S. Hoyne, who writes that he gave the Carbo veg. to about twenty students, who took it in various potencies without any effect whatever. He is inclined to think that the first, second, and third triturations of Carbo are of but little value. The higher potencies, say the sixth, twelfth, and thirtieth, would have given us more symptoms, etc.

Mr. Charles E. Larring, a student of Dr. T. S. Hoyne, took the first trituration from November 3d to 12th, 1876, at the rate of a dose (quantity not stated) every three hours, without observing the least departure from his normal standard of health.

These accounts agree with Dr. T. F. Allen's report, who gave the preparations to several students, and in addition had one-half triturated forty hours, in order, if possible, to develop greater activity. Though a large number of students took the different preparations, no symptoms have been elicited. Dr. Allen ex-

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presses surprise at this, but regrets that he had only fifteen or twenty individuals to experiment on.

Mr. C. Leeds and Mr. F. G. Davis also took the triturations of Carbo conscientiously, without obtaining any effects that could fairly be attributed to it; Mr. Leeds only recorded a number of symptoms when not under the influence of any medicine except coffee used moderately.

GENERAL CONCLUSIONS.

The provings of six healthy persons, four of them physicians of experience, show the triturations of Carbo to be inert or nearly so.

The provings of this or any other drug, especially of those substances which are generally known as inert in their crude state, are nearly valueless in consideration of the great number of symptoms it is possible to obtain from persons who are not under the influence of any medicine. Six of this class of provers also tested the Carbo triturations. The symptoms thus obtained have not been actually counted, but their number may fairly be estimated at one hundred, while their non-medicinal symptoms come very close to one hundred and forty-two. That is, each of the six provers obtained about seventeen Carbo symptoms, against fifty-seven non-medicinal symptoms.

The question may be raised, why does this danger of error not apply to all drugs? The answer may be sought in the difference of results observed in the proving of very active substances. These, if taken in sufficiently appreciable doses, at once produce an actual effect of which provers become conscious, and they are thus enabled to record them without the aid of imagination and introspection, to which most young people are subject. By way of illustration, it is only necessary to refer to such drugs as Belladonna, Arsenic, etc.

With regard to Carbo, the actual symptoms are very few in number. Nineteen provers furnished in all three hundred and twenty-five symptoms. Counting only those symptoms (of the six provers who recorded their sensations both with and without medicine) which were not peculiar to those persons when taking

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no medicine, each of them would average ten, so that nineteen provers might be said in all to have produced about one hundred and ninety symptoms (out of three hundred and twenty-five) which might technically be considered as genuine.

It was the purpose of the chairman of this bureau to add to this report some observations on the effect of trituration of Carbo and other substances with sugar of milk; but as these observations and experiments are not far enough advanced, it was thought best to defer reference to them to some future day.

The triturations used in the annexed proving were, as stated, prepared by Dr. S. Whitney, of Boston, the pharmacist of the Boston Homœopathic Hospital. Dr. Whitney writes as follows regarding the triturations: "The Carbo made into triturations for the Institute was prepared for me by a manufacturing chemist; it was not reduced to a fine dust. The first trituration was ground down by me into coarse sugar of milk, two ounces at a time. The first, second, and third triturations were made in mortars eight, nine and ten inches in diameter, using two or more pestles to each trituration; the atmosphere was dry, and the grinding continued until no more grinding could be done."

Dr. Whitney finds that the larger the mortar is the more the material to be ground spreads out; he also finds that fresh or new pestles should be used to insure perfect triturations, because mortars as well as pestles become clogged or polished, imparting a feeling of smoothness to the hand, which is an indication that the substance is no longer properly comminuted, notwithstanding the Hahnemannian rules.

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III.

*RECORDS OF PROVERS OF CARBO VEGETABILIS.**

Proving by Thomas L. Brown of 2d Trituration.

AGE 26; health good, except chronic nasal catarrh; temperament sanguine-nervous; eyes blue; hair light-brown; skin florid; red head; large face, full, flushed; form stout; habits good; bowels regular; secretions of kidneys normal; organs of chest largely developed.

Drug, 2d trituration, 2 grains.

October 24th, 1876. 10 A.M., first dose; 4 P.M., second dose; 10 P.M., third dose.

October 25th. 9½ A.M., fourth dose; 3½ P.M., fifth dose; 10½ P.M., sixth dose.

October 26th. 10½ A.M., seventh dose; 3½ P.M., eighth dose; 9½ P.M., ninth dose.

October 27th. 12 M., dull, heavy frontal headache, which continued without intermission until bedtime; eyes weak, dry, glassy; wanted to keep them shut.

October 29th. Took another powder at 3 P.M. Last night dreamed I had gonorrhœa.

November 1st, 1876. Frontal headache most severe over right eye; boring, with slight dizziness; violent exercise caused it to extend into right eye, and become quite sharp; sense of fulness of brain; also sharp pain on outside of hip and thigh, com-

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* In these provings the italicized symptoms are those which the six provers did *not* observe when recording their sensations without medicine.

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menced in the morning and lasted until evening; headache commenced about 12 M., and lasted all day.

November 2d. Drawing pain in right hip from noon till night; breath offensive.

November 3d. Slight looseness of the bowels.

November 6th. Violent exercise caused full, throbbing sensation in right temple.

November 7th. Evening, breath fetid.

November 8th. Morning, same as yesterday; evening, same as yesterday.

November 9th. Pain in lower part of abdomen with tendency to draw up the legs; slight tenderness on pressure; came on about 11 A.M., lasted till night.

November 11th. Sore feeling through the temporal region, extending from side to side, worse on shaking the head; came on in the morning before rising and lasted all day.

November 12th. Sore throat with feeling of languor.

November 13th. Last night had diarrhœa with restlessness.

November 14th. Thick, white catarrhal discharge from posterior nares, habitual.

November 15th to December 15th. No new symptoms.

Proving by J. R. Huss, 3d Trituration.

Aged 23; health good; had small-pox four years ago; badly pitted; temperament sanguine-bilious; hair brown; eyes dark-blue; head 22½ inches in circumference; skin fair; form stout; habits good; bowels regular; urine normal; organs of chest large.

October 27th. Dose, 2 grains Carbo veg., 3d. First dose, 10 A.M.; second dose, 3 P.M.; third dose, 11 P.M.; fourth dose, October 29th, 10 A.M.; fifth dose, October 29th, 8 P.M.; sixth dose, October 29th, 10 P.M.

October 31st. Seventh dose, 9 A.M.; eighth dose 3 P.M.; ninth dose, 10 P.M.

November 1st. At 11 A.M., at 3 P.M., and at 9½ P.M.

November 2d. At 11 A.M., at 3 P.M., and at 11 P.M.

November 3d. At 11 A.M. and 11 P.M.

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November 4th. At 12 A.M., at 4 P.M.

November 6th. At 11 A.M., at 4 P.M.

Result. On November 10th, toothache, swelled gums and abscess of back wisdom tooth, left lower.

Proving by Henry Hanby, 2d Trituration.

Aged 30; health good; temperament sanguine-bilious; eyes blue; hair dark-brown; skin bright, ruddy; head large; face oval; habits good; bowels regular; urine normal; chest full, and organs well developed.

Carbo veg., 2d trituration, dose 2 grains.

October 23d, 1876. 9 A.M., first dose, and three doses each day at 9 A.M., 3 and 10 P.M., until November 10th, 1876.

General Result. October 26th. General feeling of dulness, with indifference to the wishes or presence of those around me; sleep with foot and arm out from under cover, and feel that I have taken cold; am weak in every way; don't sleep good at night, turning and tossing all the time; feel sore upon lying upon one side any length of time; cannot find a soft place.

BRAIN SYMPTOMS. (HEAD), *October 26th.* Got up with pain in back of head, behind the ears.

November 3d. Head feels full, with soreness of condyles of lower jaw.

November 10th. Had pain in glenoid fossa, with swelling at back of neck.

November 14th. Swelling and pain gone.

December 2d. Fulness and pressing down in top of head; feeling of lateral distension of skull; itching all over scalp; pressure over the eyes as if the head was bound with a band.

December 19th. Fulness of head, with pressure from within outward, as if it would burst; relieved at 5 P.M.

December 21st. Fulness about sides of head, as if they would burst; hardness of hearing; pressure in forehead relieved by counter-pressure.

THROAT. *October 26th.* Awakened at 5 A.M. with constricted feeling on sides of trachea. 6.30 worse; pain on swallowing;

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mouth tastes as if lime were in it; returned at 7 P.M., extending to occiput, drawing neck backward.

October 27th, 28th and 29th. Constriction of neck and throat continue, extending to the cricoid cartilage, which was sore on pressure.

November 1st. Constricting feeling returned, with soreness and dryness of the throat; disappeared, and returned on December 10th, attended with raising of thick yellow mucus, also quite free discharge of same from posterior nares.

December 13th. Continues, only worse, and feeling of swelling of tonsils; difficulty in swallowing, and painful on coughing.

CHEST. Sharp shooting pain while lying on left side.

November 4th. Had to lie all of the time on right side, with but little rest; heart feels pressed down, so that I can scarcely feel its action, with faintness and shortness of breath.

November 21st. Heart symptoms continue.

December 3d. Stitching pains in region of heart.

December 7th. Tenderness over apex of heart, worse on coughing; pain worse on lying down, better on rising.

December 21st. Pain increased in right side; shortness of breath.

ABDOMEN. *October 24th.* About 12 M. had slight feeling of looseness of bowels; at 1.30 had copious discharge of soft brownish stool; at 5 P.M., another, and at 6 P.M., a third of same character.

October 25th. Hard brownish stool at 7 P.M., hard brownish balls.

November 1st. Another discharge, same as October 25th, very unusual; abdomen sore, hard, painful on lying on left side.

November 3d. Had passage of stool of dark color, about size of a pencil, small, attended with great straining.

November 23d. Have a feeling as if a stone were in the abdomen below the umbilicus.

November 26th. Soreness from umbilicus through to spine and up to shoulders.

December 10th. General soreness over abdomen; soreness to the touch; feels full and hard, though I have had no appetite for several days; darting pains as if a knife were running through and up the stomach. Genital and urinary organs: pain in testi-

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cles several days; pain at the end of penis, with tearing and stinging; had erections three nights in succession, waking from sleep; urine dark color, scanty, and passed with stinging pain.

Proving by D. M. Dysent, 2d Trituration.

Aged 24; health good; temperament sanguine-nervous; eyes brown; hair light-brown; head large; form stout; features full, broad; bowels regular; urine normal; chest large and full; occasionally subject to palpitation after exercise.

October 23d, 1876. 9 A.M., 4 P.M. and 10 P.M., a dose, two grains, 2d trituration Carbo veg.; repeated same dose, same hours, and same number of times each day until November 10th, 1876.

October 28th. Urine dark-colored; severe headache in temporal regions; cold hands and feet, 12 M.

October 29th, 4 P.M. Vertigo aggravated by stooping; perspired freely; weakness in lower limbs.

October 30th, 8 A.M. Had intense headache; sharp pains in temporal region; nausea; loss of appetite; cold hands and feet; 2 P.M., felt warm; perspired freely; urine dark-colored, scanty; bowels loose, but regular; nightly emissions.

October 31st. On waking had very severe headache; nausea, without vomiting; 2 P.M., diarrhœa; cold hands and feet; no appetite.

November 1st. Bowels moved in night; 2 A.M., some headache through temples.

November 2d. Morning, lower limbs ache; dark-brown coat on tongue; scalp sore to touch; bowels moved three times.

November 3d. Felt better; slept well; urine dark, scanty; bowels moved twice.

November 4th. Nothing worthy of notice; bowels not moved.

November 5th. Slight headache; bowels moved once; urine dark and scanty.

November 6th and 7th. Tongue coated; bitter taste; flatulent.

Proving by Wm. E. Gill, 3d Trituration.

Aged 22; health good; light nervous temperament; light eyes; brown hair; skin and complexion florid; head medium

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size; face moderately full; form slender; habits, smokes occasionally; bowels regular; urine normal; sore spots in region of heart, otherwise organs of chest seem to be normal. Carbo veg., 3d trituration, and grain doses three times each day from October 23d, 1876, to November 15th, 1876, at 9 A.M., 3 P.M. and 10 P.M.

October 25th. Gulping up sour and bitter substances; belching up bitter fluid one hour after eating; mind clear and in rather happy frame.

October 27th. Urine free; still gulping up sour and bitter fluid and substances; urine free and light-colored, and continued until November 13th.

November 14th. Right hand inclined to go to sleep.

November 15th, 9 P.M. Twitching of thumb of right hand; legs and arms inclined to go to sleep, with beating and bubbling sensation in right deltoid.

November 16th. Soreness of small of back coming on gradually; fine darting pains at times; small watery blisters on lips; have not felt like taking as much exercise as usual, going to sleep about 5 or 6 P.M.

November 17th. Having sleepy feeling in legs and arms; feeling as if pressing the bone apart in the hollow of the left foot when putting the foot down; dull pain at the internal condyle of the left femur.

November 18th. Awakened with stiffness of left sterno-cleido-mastoid muscle, sore to touch; cervical glands enlarged in mastoid region, and immediately back of left ear; sensation as if the meatus were swollen and sore.

November 19th. Same condition, with hands and feet sweaty; sensation as if the meatus were closing up; throbbing headache through the temples.

November 22d. Glandular swelling begins to go down.

November 24th. Chilliness in back; dry cough at 1 P.M.

November 25th. Hoarse this morning, lasting all day; dull pain under upper part of sternum; dry cough, painful; raising a little tenacious mucus; sensitive to the air; urine often light-colored; have been somewhat constipated for several days.

November 26th. Coughing on talking, or even speaking aloud;

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sense of swelling in trachea, with soreness and sickish feeling in upper part of chest.

December 1*st.* Noticed catarrhal discharge from external meatus of left ear; coughing still quite frequent; worse in the house.

December 2*d.* Coughing up phlegm, with gagging and raising saltish mucus; cough increasing during the day; nose feels stopped up with thick yellow matter; burning of the cheeks and anterior nares; headache from 3 to 5 P.M.; sensitiveness of scalp and small spot on vertex.

December 13*th.* Felt feverish in morning; coughed most of the night; at 3½ had to get up to avoid choking; sputa thick and viscid; headache in temples; weak, cannot walk without getting tired, and trembling of the legs; 8 P.M., nares dry and hot.

December 14*th.* Tickling cough in larynx; gave Ipecac. and relieved patient.

Proving by William Owens, Jr.

Aged 19; health good; temperament sanguine-nervous; eyes blue; hair brown; skin fair and ruddy; head large; face full; form stout; habits good; bowels regular; urine normal; organs of chest sound and healthy. Carbo veg., dose 2 grains.

October 24*th*, 1877. 10 A.M., 3 and 10 P.M., a dose each hour.

October 25*th.* 10 A.M., 3 and 10 P.M., a dose each hour.

October 26*th.* 12 M., 9 P.M., a dose each hour.

October 27*th.* 10 A.M., 3½ and 9½ P.M., a dose each hour.

October 28*th.* 10 A.M., 3 and 9 P.M., a dose each hour.

SYMPTOMS.—*October* 25*th.* 12 M., headache on rising or making any exertion; sleeping between 3 and 4 P.M.

October 28*th.* Dull headache from 3 to 6 P.M.

October 29*th.* Constipation; sensation as if hæmorrhoids would come down, with sharp cutting pains in anus.

October 31*st.* Feeling as if the sphincter ani would give way.

November 3*d.* At 3 P.M., severe headache; seemed as if I could feel the eyes pressing in the sockets (orbits), as far back as a line drawn from ear to ear; worse on left side; worse on getting up or starting to move.

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November 4*th.* Head aches still, morning; passed a very restless night; pain in left side, darting and shooting toward parietal bone.

November 17*th.* Sleepiness in afternoon, still continues from 3 to 5; my legs and arms become numb, as if going to sleep; still constipated; involuntary muscular movements of hands and feet; urine greatly increased, of natural color.

November 19*th.* Headache better; appetite extraordinarily good.

Proving by W. H. Paine. 1*st Trituration.*

Aged 25; nervous, sanguine temperament; commenced taking medicine in evening as directed; slept well; on awakening the following morning discovered a heavy white coating upon tongue; a complete loss of taste; there was a confusion of ideas; frontal headache over eyes, extending to occiput; nausea, but not great; urine profuse, and often white; feet cold; unsteadiness of gait, especially on going upstairs; some internal heat; slight constipation.

The above symptoms lasted one week, with the exception of coated tongue.

Proving by E. E. Holman and L. W. Todd. 3*d Trituration.*

I have tried or rather *proven* the remedy you gave me, according to direction, which has resulted as follows:

November 29*th.* 7 A.M., took a dose of the medicine; no apparent result.

9 A.M. Took a dose of the medicine; no apparent result.

11 A.M. Took a dose; *slight pain* in the *left temple.*

1 P.M. Took a dose; the *pain* in *the temple* very much increased and rapidly extending over the *top* and *sides* of the *head,* very *excruciating* in its character; a *continuous, dull,* almost *unbearable pain.*

2 P.M. The *headache* continues, and symptoms begin to develop; *feeling* of *goneness* in the *stomach* and *general lassitude.*

3 P.M. Took *dose No.* 5; the *stomach symptom* the same, and new ones added; *hard sensation,* as though something were

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there that ought not to be; *sour, bitter eructations*, which relieve the *hard sensation* in the *stomach.*

At 5 P.M., took dose No. 6; no new symptoms as yet.

At 7 P.M., took dose No. 7; symptoms all increased, and the *lungs* and *throat feel raw*, as if they had been *scraped;* also a *watery discharge* from the *nose.*

At 9 P.M., took the eighth and *last* dose for to-night; all the symptoms seem about the same, unless it is the *headache*, which if anything is worse; and either that or the effects of the medicine kept me about *half-awake all night*, and I awoke in the morning feeling *tired, cross, sleepy*, my *mouth* having a peculiar *feeling*, as though *painted* or *coated over with something*, and *tasting*, as near as I can describe, as one's *mouth* does when having the *measles.*

I have tried the remedy since, with similar symptoms occurring as before, but no new ones. My room-mate, L. W. Todd, took one dose, which resulted in causing a *terrible headache*, similar to the one I have described. I am *positively sure* that it was the remedy alone that produced the symptoms enumerated, for particular pains was taken so that nothing might interfere with the action of the remedy.

Proving by Mrs. Flora H. Stanford. 1st and 2d Triturations.

In the following provings the italicized symptoms are attributable to the medicine, as those in common type were all present while taking Saccharum lactis.—C. W.

November 29th. Took one grain at 12 M.

1 P.M. Broke out suddenly in a slight perspiration; feeling very warm; was standing in a room without fire.

2.15 P.M. Fit of *sneezing*, with a slight sore throat, with running of very little clear mucus from nose; *clots* appear in menstrual flow, which is *thicker* than usual, and a reddish-purple.

3.30. Took medicine; tongue streaked brown.

8. Took medicine.

8.30. Heavy feeling in head with slight nausea; sore tired feeling in wrist (left) returned.

10. Light feeling in head, with throbbing apparently in the

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centre of brain; frequent passing of *fetid-smelling* wind per rectum, or bilious eructations.

November 30th. Woke up from dreams of lessons with mouth filled with thick mucus; mouth uncomfortable and burning.

7 A.M. Metallic taste in mouth.

12.30 P.M. Took medicine; feeling as of a band on forehead, still there.

2 P.M. Dull pain in forehead; with bilious eructations. (?)

2.45 P.M. Pains in bowels, forehead, followed by *loose stools with tenesmus*, sleepfulness and photophobia.

6.30. Took medicine.

7. Contractions of muscles of left hand, especially along the metacarpal bones; both hands hot and dry; head feels heavy; feel *cross* all the time; have a slight *hacking cough raising a little white tasteless mucus* from throat.

9. *Throat slightly sore,* muscles of throat very tired; was sitting.

11. Took medicine.

December 1st, 7 A.M. Took medicine; tongue coated dirty-white, with thick slimy saliva; slept fitfully; head clearer this morning; had a *diarrhœic stool,* which ended in a *gushing watery* evacuation, with tenesmus; eat very sparingly yesterday.

2 P.M. Took medicine; menstrual flow lasted five days, and passed off as suddenly as it came on.

7 P.M. *No membrane* came away this time, nor the last; have often seen it before.

9.30. Sharp pains in hypogastrium, relieved by eructations.

10. Took medicine; pains in hypogastrium continued.

December 2d. Woke in the night from disagreeable dreams, could hardly get asleep again.

6.30 A.M. Woke again from disagreeable dreams, feeling tired; mouth slimy; thirsty, but do not care to drink; no head symptoms this morning.

9 A.M. *Legs tired, especially the calves;* was walking; makes knees tired to go upstairs.

12.30. Took medicine.

3.45. Took medicine; tired feeling round hips.

7 P.M. Pruritus in anterior of vulva; took medicine.

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9. Forehead dull, heavy; feel cross; slight leucorrhea; *abdomen bloated* all the evening; hands hot and dry.

December 3*d.* Sleep full of dreams, kept waking up; forehead heavy; tongue streaked yellowish-brown; dark circles round eyes.

8 A.M. Took medicine.

1 P.M. Bleeding of bright-red blood from sore on lip.

8 P.M. Have felt low-spirited and irritable all day, with dull pains in back when stooping, or if in any position a short time; *bloating of stomach,* so that a loose dress feels tight; can bear no *pressure on thyroid gland,* which feels as if there was a string or band on it all the time.

8.15. Took medicine.

11. Took medicine; have involuntary evacuations of wind.

December 4*th.* 7.30 A.M. Took medicine; forehead still feels heavy; nausea in stomach; fæces pass in lumps, with tenesmus.

11. Hands hot and dry, especially the left; skin peeling off the palms of hands.

11.30. Stiffness in neck; slight dizziness in head; sharp pain in left groin; passing away quickly.

12 M. General tired feeling, especially in lower limbs.

12.30 P.M. *Feet cold* in warm room, with hands hot and dry; cold passing to knees, 12.45, then to thighs, then gradually passed off; interior of hands purple in streaks; one red and inflamed spot in the centre of left hand.

1.30 P.M. Took medicine; *burning of fauces,* with *desire to cough;* hands hot and dry, especially the left; skin peeling off the palms of hands.

3 P.M. Pricking sensation in vagina, sitting.

7 P.M. Took last dose.

December 5*th.* In the afternoon, anterior portion of thighs cold while in the warm room; leucorrhœa like white of egg, mixed with pus, which by evening has made a burning itching of external parts.

December 8*th.* During the last few days have had *continuous tingling* in Scarpa's triangle of left leg where I had an abscess seventeen years ago; nearly continuous with the two provings

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have had bearing-down pains in hips; pains of a steady pressure as if the menstrual flow would come on.

Think the ill spell of December 10th was more the effect of a bad cold and studying.

April 2d. 2d trituration.

11 P.M. Took one grain. Have been taking Podophyllum for canker-sore on inner surface of under-lip, which it failed to cure, the sore being painful, with burning sensation when touched.

April 3d. 7.40 A.M. Took one grain.

Upon waking at 6.30 A.M. felt a pulsating throbbing through the brain from forehead backward, which passed off leaving head feeling clearer than it has felt for a week; *character of leucorrhœa changed from an acrid greenish yellowish-white,* to the color of albumen streaked with milk; leucorrhœa generally more profuse after passing urine.

11.40 A.M. Took medicine; pressure between shoulder-blades, relieved by bending back.

April 4th. 11.30. Took medicine; can see my chest rise and fall with each beat of the heart; want to keep taking deep inspirations; each beat of heart seems to send the blood to the brain with a jerk; in the evening it was a great effort to collect my ideas to give them utterance.

April 5th. Woke with oppression between scapula; relieved by bending back, when the oppression seemed under the sternum.

7.30. Took medicine; pressure on chest relieved by passing of flatus, then *passage of wind* with a *loose stool,* but not like diarrhœa; pressure shifted from scapula to sacral region; oppression under sternum intermittent.

7 P.M. Took medicine; more or less incontinence of urine, with downward pressure in vesical region; no tenesmus; leucorrhœa almost suppressed; veins in hands look full; forehead heavy; have just taken a long walk.

11.15. Took medicine.

April 6th. Woke with heavy ache in forehead; left wrist feels weak.

8.40 A.M. Took medicine.

11.50 A.M. Took medicine; leucorrhœa returned, milky in color.

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1.15 P.M. Lips have been dry and parched all the morning; canker-sore on inside of under-lip gone; root of tongue coated yellowish-white; throat felt sore for a few minutes.

3.40 P.M. Took medicine.

11.30 P.M. Took medicine.

April 7th. Woke with heavy ache in forehead; lips dry and parched; face feels swollen; every beat of the heart felt in the brain; it is a great effort to remember or think (*taking a deep breath seems to relieve the throbbing of the heart for a few minutes*).

10.25 A.M. Took medicine; *lame feeling in region of sciatic notch* (deep) *while standing and walking, more on right side than left; lameness extends across the sacrum.*

11.30 P.M. Throat feels dry and a little sore, with itching and numb feeling in right ear; slightly so in left ear.

April 8th. 9 A.M. Had a dejection, foamy, almost diarrhœa-like, ending in firmer consistency; color a dark greenish-brown; hands hot and dry; tongue coated brownish yellow in centre, looks and feels swollen; *thirst alternating with slight salivation.*

12 M. After even slight exercise increased weariness around hips, *with desire to urinate* nearly all the time; pain in hypogastric region followed by faint, sick feeling, relieved by drinking cold water; throat felt sore after drinking; symptoms relieved by rest; leucorrhœa slight, like albumen streaked with milk.

12.40 P.M. Took medicine.

1.30 P.M. Sharp pain just under the anterior superior spine of ilium, right side, running down to bladder; slightly so on left side, passing off with desire to urinate.

1.40 P.M. Heart throbbing apparently from left scapula forwards, the throbbing communicating to brain; pressure still between shoulder-blades; slight pain in right inguinal region with increased desire to urinate.

1.55 P.M. *Pressure between shoulder-blades;* shifted to under right scapula, passing round to beneath the right ribs; became painful just above the waist; relieved by eructations of tasteless wind.

4.15 P.M. Took medicine.

11.30 P.M. Took medicine.

April 9th. Pressure between scapulæ when I got up.

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7 A.M. Took medicine.

10.35. Took medicine; slight pressure over hips.

4 P.M. *Soreness in throat with tickling*, causing coughing.

Took medicine.

4.30 P.M. Soreness of throat passed off.

8 P.M. Sharp stitchlike pain in lower part of right inguinal region, passing to vesical region with desire to urinate; *have had passage of badly-smelling flatus* during afternoon, sometimes involuntary; pressure over hips increased during the afternoon, which still continues.

8 P.M. Took medicine; for the last hour have had passage of wind per vaginam several times.

9.45 P.M. *So tired round hips and sacrum* I had to lie down, when it felt better.

11 P.M. Took medicine.

April 10th. Woke in the night with a sore throat, which passed off. The dryness of nostrils has given way to a slight colorless discharge. *Pressure on sacral region continues, though slight.*

9 A.M. Took medicine. Leucorrhœa slight, of yellowish-cream color.

1.30 P.M. Took medicine.

4 P.M. *Urine light, nearly colorless; urging to micturate* almost constant.

6.45 P.M. Took medicine.

8 P.M. Sharp pain in region of apex of heart; external surface of ribs sore to touch for some time afterwards.

8.55 P.M. Sharp pain in right inguinal, passing to hypogastric region, then to left inguinal, relieved by eructation of wind, after which the pain again in left inguinal.

10.45 P.M. Took medicine.

April 11th. Woke in the night with pressing pain in forehead.

8.15 A. M. Forehead better; leucorrhœa milky. Took medicine. Heart throbbing so fast I could not count it, relieved by deep breathing, passed off in five minutes.

12 M. Took medicine. Leucorrhœa creamy, thick, yellowish, with bubbles of air; feeling of pressure between shoulders.

11 P.M. Took medicine.

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April 12th. Woke with pressure in forehead, amounting to a sense of painful weariness. It passed off on getting up.

8 A.M. Shooting pains across the lower part of abdomen, from right to left; stool at first hard and prickling, then very loose; leucorrhœa thick, yellow and acrid.

10.30 A.M. Took medicine. Urine clear, without sediment this morning, apparently very hot.

6.15 P.M. Leucorrhœa slight, but acrid. Took medicine.

April 13th. Pressure in forehead not so much as yesterday morning; mouth filled with sticky, unpleasant-tasting mucus; nose dry. After getting up, mucus from nose greenish-yellow, like the leucorrhœa of yesterday. *I had a slight chronic catarrh before taking the medicine, which has aggravated all the symptoms.* The soreness of left nostril spreading on the floor of nares, with tendency backwards. It is sore to touch, with a scab of whitish skin.

9.45 A.M. Took medicine.

10 A.M. Second passage from bowels this morning, very dark burnt-umber color, offensive odor, came in small pieces of small calibre.

11 A.M. Rumbling of flatus, with eructation of tasteless gas; sharp pain in biceps of right arm.

1.30 P.M. Dizzy and thirsty; tongue feels thick, with marks of teeth on side; alternate dryness of mouth with salivation. Took medicine.

11 P.M. Intense pruritus vulvæ for a few minutes.

11.5 P.M. Took medicine.

April 14th. Pressure in forehead on waking, which passed off, and appeared between shoulders. Had two passages from the bowels this morning.

10 A.M. Took medicine.

11 P.M. Took medicine.

April 15th. 7.45 A.M. Took medicine.

8 A.M. Throat sore.

3 P.M. Took medicine.

9 P.M. Took medicine. No passage through the bowels all day; abdomen bloated; involuntary passage of putrid-smelling flatus, sometimes with relief.

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April 16th. Took no medicine. Urine dark-colored; passage through bowels at 4 P.M. was unusually constipated; leucorrhœa, none.

April 17th. Woke with no bad feelings in head.

10 A.M. While sitting, pressive, dull feeling between lower portion of scapulæ, relieved by straightening up, when the throbbing of heart could be distinctly felt, with a pressure, apparently in right lung, both relieved by deep breath or eructation of flatus; leucorrhœa very slight, and slightly acrid.

11 A.M. Took medicine.

11.15 A.M. Rattling in bowels, like the pouring of water, relieved by eructations; *secretion of viscid and then watery saliva,* which latter seems to pour from the inferior maxillary gland.

11.20 A.M. Dull pain in right side, relieved by eructations.

12.45 P.M. Stitch in region of bladder.

1.15 P.M. Urine scanty, dark-colored, strong smell.

2.30 P.M. Took medicine. A burning ache in vulva after urinating, with pricking sensation in vagina, similar to prolapsus; first symptoms of pressure in hypogastrium, as if that region were drawn in; *alternate dryness of mouth with salivation.*

10 P.M. *Pressive pain in epigastric region,* with throbbing, relieved by a deep breath.

10.10 P.M. Pressive pain in hypogastric region.

10.25 P.M. Feel sick, with slight nausea.

10.45 P.M. Took medicine.

April 18th. Woke in the night with a feeling as if a heavy weight were pressing just below the sternum; as if the contents of the chest were being pressed on a small point of the back between the scapulæ; as if that point was the apex of the cone of weight, slightly relieved by eructations of tasteless gas and change of position, when I broke out in a sweat, which gave enough relief, so that I went to sleep. Woke in the morning with pressive pain in forehead and sense of pressure between shoulders.

7.30 A.M. Took medicine, about 2 grains; *felt sick in a few minutes, with eructations of wind.*

7.45 A.M. Passage per anum very urgent, dark-yellow in color, coming away in small, detached pieces; *dryness of mouth, with thirst, alternating with salivation.*

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9.30 AM. Pressure still between shoulders; throbbing of heart felt through whole brain.

11 A.M. Took medicine, 1 grain.

5 P.M. Took medicine. Left wrist and hand lame.

10.45 P.M. Left wrist not so weak; pressure between shoulders; pressure in hypogastric region; another pressure per anum; *constipated.*

10.50 P.M. Took medicine.

April 19th. Woke with a heavy ache in forehead, which passed off on rising, when it was felt in sacral region; urine dark, with greenish-yellow leucorrhœa after; lips feel swollen, interior of mouth hot, tongue dirty yellow.

8.30 A.M. Feel tired all over.

8.35 A.M. Took medicine.

8.50 A.M. Oppressive feeling in epigastric region, relieved by deep breath.

10 A.M. Menstrual flow begun, clear, bright-red, came on two days too soon; feel weak all over, especially left wrist; disinclination for any work, either bodily or mental.

1 P.M. Took medicine. Bearing-down feelings round hips, especially left hip.

4.15 P.M. Left nostril sore and dry.

10 P.M. Feeling of general weakness and pressing forwards in hypogastric region.

10.10 P.M. Took medicine; pressure still between shoulders.

April 20th. Woke feeling tired; after getting up the *pressure returned between the shoulders;* there has been an oppression in the chest all day, relieved by long breaths; flow bright red, with gray streaks, which, on being placed in water, proved themselves shreds of membrane (I have preserved several of them; the last month a large piece came away, which I also saved); have had sharp, quick pains quickly passing away in hypogastric region; the pressure over hips not so much as yesterday; the wrists and hands assist in the general tiredness; hands swelled so that my ring, which is usually loose, leaves its mark.

10 P.M. Took last dose of medicine; in a few minutes felt the throbbing of heart in the brain again; all the morning had itch-

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ing in left ear, with tenderness of mastoid process of temporal bone on left side.

10.20 P.M. Transitory pains in left side, leaving a tenderness to pressure externally; had aching soreness of the crowns of teeth on right upper jaw all afternoon.

10.45. Slightly painful pressure in left inguinal region, coming and going, sometimes relieved by eructations, sometimes not.

April 21*st*. Woke in the morning with intense dryness of nostrils; feel better this morning, pressure between shoulders less; transient painful pressure in left inguinal region; left wrist feels tired, especially when lifting even a light book.

9.50 A.M. Short catching pains in apex of heart for a few minutes; when feet or legs are kept in one position for even a short time the blood seems to stagnate, the surface getting red.

10.3 A.M. Thin watery saliva seems to pour from the gland just beneath the tongue, getting gradually less all day.

6 P.M. Burning and itching in a mole on right cheek.

April 22*d*. No flow during night; woke with pressive pain in forehead, which is hot externally; after getting up, the pressure on chest returned from front to back, only not so severe; nose not so dry as yesterday, but ears feel dry, with itching in left ear.

9 A.M. Eyes feel dry and hot, with inclination to keep them closed; head hot; hands cold and weak; even writing only a little is tiresome; some dull transitory pains in hypogastric region; flow scanty and brick-colored.

10.30 A.M. Had three attacks of twitching in outer muscles of right thigh, about ten minutes between each.

11.30 A.M. Painful pressure in region of apex of heart for a few minutes; have had oppressive feelings in chest almost like asthma, relieved to some extent by deep breathing.

April 23*d*. Woke with dryness of nose; after picking it there came a thick greenish-yellow mucus.

3 P.M. Pressive burning aching in lobe and lower portion of cartilage of left ear; no flow during the night; this morning after exercise bright red, changing to brick color; throbbing of heart felt sometimes in forehead; have felt oppressed all day, want to take long breaths.

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April 24th. Woke with pressive ache in forehead; front part of tongue clear, back part whitish-yellow; flow gradually ceased; bearing-down feelings in sacral regions, with pressive pains in left inguinal and hypogastric region at irregular intervals; feelings of depression all day; hard work *not* to shed tears.

April 25th, 8 P.M. Symptoms the same as yesterday; feeling *very* depressed; do not feel sick, but small things irritate; it is hard work to smile or get up a laugh at anything; wrists feel weak, whether at work or doing nothing; leucorrhœa slight and acrid, sometimes yellowish, sometimes viscid and clear; *os* to the touch is unusually open; pressive feelings in hypogastric region, not relieved by urinating; some pressure in chest; throbbing of heart, temporarily relieved by a deep respiration.

April 26th. Nose and eyes felt dry on waking; after picking nose, a thick yellow mucus was brought out; right nose more sore than left; leucorrhœa very slight in the morning and creamy, in the evening clear; pressure in hypogastric and sacral region continues, but slighter; heart throbs on least exertion; oppressive feelings in chest, relieved by deep breath; do not feel so prostrated as yesterday.

April 27th. Woke with pressure on chest and interscapular region, which was ameliorated on rising.

April 30th. Do not feel so well this afternoon; pressure between shoulders, and wrists still quite weak; left nostril rather dry, but not sore; right nostril still sore, from which a whitish scab can be picked, and yellow thick mucus drawn out.

May 1st. Woke with pressure in forehead, which passed off on rising.

6 P.M. Lameness in wrists still continues, but not quite so much.

Proving by Richard R. Trotter, 1st Trituration.

November 20th, 1876. Health good; pulse 72. Took 3 grains twice during the afternoon; no result.

November 21st. 3 grains taken three times; no effect.

November 22d. 3 grains taken three times; no effect.

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November 23*d.* 3 grains three times; *slight constipation* and no desire for stool; slight salivation.

November 24*th.* 3 grains three times; *fluent coryza* from nose, and profuse secretion of an albuminous mucus in posterior nares.

November 25*th.* 5 grains three times; coryza fluent from anterior nares and albuminous from posterior nares, only during the day, none in the evening or at night; salivation slight.

November 26*th.* 5 grains three times; salivation slight; *coryza during the day* and fluent; mucus profuse from posterior nares, pressing dull pain on top of shoulder, very severe on left side, slight on right. This pain came on about 3 o'clock P.M., while walking in the open air, and passed off on getting warm in house.

November 27*th.* 5 grains twice; *sleeplessness* until after midnight; coryza and mucous discharge still continue during the day.

November 28*th.* 5 grains three times; *sleeplessness* at night; mucus from posterior nares profuse; coryza slight.

November 29*th.* 5 grains three times; pressing dull headache on right side and in forehead; pain as of a heavy weight in right shoulder while sitting still, lasted but a short time; *canker-sore* on inside of lip; slight coryza and slight salivation; albuminous discharge profuse.

November 30*th.* 10 grains twice; salivation, coryza and mucus from posterior nares.

December 1*st.* 10 grains twice; pressing headache in vertex, early in the morning, awakening me from sleep, it soon passed away and I went to sleep again; salivation slight; no coryza; mucus from posterior nares; frontal headache more particularly on right side.

December 2*d.* Awoke with headache in the vertex and both temporal regions; stopped for a short time after rising, then returned and continued with remissions all day; *raw* feeling in posterior nares, not so much secretion; drug not taken.

December 3*d.* Drug not taken; same pressing dull headache in the morning but more frontal; salivation slight; secretion from posterior nares slight, raw feeling there; pain in posterior

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muscles of neck, especially the right side; worse from leaning forward when writing, painful on pressure.

December 4th. Posterior cervical muscles painful to touch; pain along the spine, dull aching pain; right side most sensitive to pressure; pulse was not altered during the proving more than three or four beats.

Proving by Mrs. J. A. Marshall, 1st Trituration.

First dose November 11th, 3 P.M. Heat in the left lumbar region rising to the stomach, with belching of flatus; constant belching, with yawning and sleepiness, followed half an hour later by a *costive stool;* sense of constriction around the waist, and distension of the abdomen, with belching of wind; constant belching and constricted feeling of the chest at 6 P.M.

Second day. Dose at 7.30 A.M.; no very marked symptoms; 9 A.M., diarrhœic stool, with discharge of very fetid flatus.

12 noon. Second dose followed by a slight frontal headache; soon passes off.

3 P.M. Much belching of wind, which increases until 7, when the distension of the abdomen becomes distressing; *feeling of a tight band around the waist;* passes off at 8 o'clock *with discharge of very offensive flatus.*

(All symptoms not italicized are precisely the same as those derived from observations during the taking of Sacch. lact. —C. W.)

Evening. Sharp darting pains in the inferior maxillary, lasting some minutes; darting *pains in the great toe* of the right side, running up to the ankle-joint, lasting only a minute.

Fourth day. 7, morning. Swelling of the upper lip on rising; pains darting up the left side of the face; at 9, diarrhœic stool, with sharp pains in the abdomen; at 11 o'clock, hot perspiration breaking out over the body, lasts only a few moments, relieving all the symptoms; at 1 P.M., another diarrhœic stool; 3 P.M., another dose, followed by hot pain in the left lumbar region; passes off in an hour, with discharge of flatus and belching of wind; urgent *desire to urinate, with passage of a large quantity of pale urine.*

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Fifth day. *Bowels constipated, with urgent desire to urinate, passing large quantities of pale urine.*

11 P.M. Took the medicine; on going to bed felt very well; half an hour later *palpitation marked;* heart-sounds remit; cannot lie on the left side, heart's beating makes me feel so nervous; on falling asleep have *horrid dreams,* which end in nightmare; on getting awake am aware of a dull, pressive feeling around the heart; sleep restless; wake to find my arms over my head; stomach anxious; depressed; on rising, much belching of wind, which relieves somewhat; tongue yellow, coated; sense of fulness in stomach, with loss of appetite.

5 P.M. Fissures in the tongue; enlarged papillæ, red around the edges; in the centre, slimy, and smarting—feels as though burned; stomach sour, burning; *heart's action disturbed* all through the proving; much dyspnœa and palpitation on going upstairs.

November 20th, Monday morning. 3-grain dose. *Dry, cracked, swollen lips; fissures of the tongue, with vesicles around the edges that smart as though burned;* constant belching of wind, with feeling as of a tight band around the waist; fulness and loss of appetite.

1.30 P.M. Another 3-grain dose; at 4 P.M., much belching of wind, tasting of the food eaten; weak, tired feeling at the pit of the stomach; cannot bear the pressure of loose clothing; loss of appetite, with sense of fulness; burning, with sense of a ball in the stomach.

November 21st. Mental symptom, discouraged mood; anxious, distressed feeling in the stomach and abdomen lasting an hour, followed by hot perspiration, with a feeling of comfort; perspiration comes up the spine from the coccyx, over the head, forehead, and face; hands dry; flushes of perspiration during the evening, coming up the spine, over the forehead and face to the upper lip, coming and going instantly.

9 P.M. Anxious feeling in the umbilical region. 9.30, loose stool, very offensive.

November 24th, 9 A.M. 3-grain dose, followed by a constrictive feeling that seems to rise from the abdomen and come up into the chest; hot pain in the left lumbar region, with dry

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hands and flushed face; *a hot constricted feeling in the chest, causing dyspnœa and a short dry cough; very much troubled for breath; passed off in about an hour.*

4.30. 3-grain dose; at 6, hot pain in the umbilical region, extending over the abdomen, followed an hour later by a gushing loose stool, with much pain during the stool, not relieved by the stool; soon another stool similar in character, with throbbing in the bowels and rectum; loss of appetite; gulping of wind; tongue feels as though burned; am unconscious of hunger and often take only two meals, with a mouthful of cracker on going to bed.

I have observed all through the proving an inability to concentrate my thoughts; am unable to take notes; feel hurried, but unable to execute; have made no progress in study, and feel annoyed and baffled; am irritable and oversensitive to noises; loud conversation is particularly annoying.

Proving by Mrs. H. H. Cobb, 1st Trituration.

Took 1 grain; pain in head again; menses appeared (at proper time); continued the medicine, increasing the dose; *feet grew tender and swollen,* were painful to step upon; quite *moist,* and so much swollen that I wore with great discomfort what were ordinarily loose boots; *menses delayed, or were very slight three or four days, then unusual amount of pain and profuse flow,* with many clots, the pain being as if contents of abdomen would fall out over pubis; felt too ill to leave my room, and discontinued the medicine; better next day, but did not take medicine again; menses lasted more than a week from first appearance.

For the following three weeks felt remarkably well, and free from any consciousness of symptoms, such as have heretofore seemed my normal condition. *Menses appeared without the premonitory state* of discomfort, such as headache and general languor, dulness and pain, *lasted less time* than usual; flow much less in quantity; general condition much more comfortable, without headache or other customary pains, and the succeeding weeks no less comfort than the preceding.

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Fragment by S. J. Aldrich.

Age a little over forty; condition of health fair; took two powders before a dinner of milk, on Tuesday; felt slight stimulating effect on brain and urinary organs.

Wednesday. Three powders before breakfast; effect like the previous day, a little more forcible.

Thursday. Four powders before breakfast, producing *general headache; pronounced in region of the brain, with contraction of genital organs.*

Also another proving as follows: Began by taking two powders in the A.M.; felt no perceptible effect; in one hour took another powder, *felt symptoms of flatulency* and slight stimulating effects about front brain.

Took two powders more, an hour apart, with symptoms before mentioned increased to a *slight headache.*

Proving by M. Mason.

April 23d, 1877. Feel well, excepting a little heaviness and sleepiness in afternoon.

5 o'clock P.M. Took 3 grains of 1st trit.

10 minutes of 7 P.M. Feel *sharp stitch in lumbar region.*

9 P.M. Darting pain in right chest.

April 24th. 7 o'clock A.M. Took 3 grains.

April 24th. 2 o'clock P.M. Took 3 grains.

April 24th. 5 o'clock P.M. Took 3 grains.

April 24th. 8 o'clock P.M. Took 3 grains.

April 25th. 7 o'clock A.M. Took 3 grains.

Before half-past 7, a *continuous, rather sharp pain in right shoulder, worse on motion.*

Quarter of 9. Feeling of emptiness in abdomen; discomfort in right ovary, and all up and down right side of trunk.

Nearly 10. *Can scarcely move right shoulder because of a knife-like pain from shoulder through to chest.*

11 o'clock A.M. 3 grains.

Half-past 11. Pain in shoulder and chest, not present except when turning body.

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3 P.M. 4 grains; hard pain in right shoulder and chest all the evening.

Morning, *April 26th.* Slept good; free from pain.

7¼ o'clock A.M. 4 grains; no symptoms.

10¼ A.M. 4 grains.

2¼ P.M. 4 grains; no symptoms through the day, except very tired feeling in knees and ankles, and at night tired back.

Morning, *April 27th.* Slept little; kept waking up.

8¼ o'clock A.M. 5 grains.

11¼ A.M. 5 grains; *feeling as though menses would appear.*

11½ A.M. *Chilly* feeling, lasting about an hour, then begin to feel feverish; tired and sleepy during the chill, but wide awake as soon as I lie down.

2½ P.M. 5 grains; lips dry, thirsty, drink much and feel feverish all the afternoon.

8½ o'clock A.M. *April 28th.* 5 grains.

10½ o'clock A.M. *April 28th.* 5 grains (blue as indigo).

11 A.M. Chilly from head to feet; heart's action slow and irregular; pulse 56; *creeping pains in knees.*

2 P.M. 5 grains.

2½ P.M. *Sleepy.*

3¾ P.M. *Burning heat in left foot.*

4 P.M. 5 grains.

6 P.M. 5 grains.

Sunday, April 29th. Menses appeared, preceded by several quite sharp pains through uterus.

12.30 *Noon.* 3 grains of 2d trituration; pain returns to right shoulder and chest.

5 P.M. 3 grains.

8 P.M. 3 grains.

8.30 P.M. Decided pains in uterus, entirely unusual.

Wretched nervous feeling originating in uterine region and culminating in the inner thighs; lasting through the evening.

April 30th. 8½ A.M. 3 grains; (frozen all the morning; *feet feel as though dipped in cold water.*)

10.30 A.M. 4 grains; sleepy and chilly and *doleful.*

12.30 o'clock. 4 grains.

2.30 o'clock P.M. 5 grains.

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6 o'clock P.M. 5 grains. (*Crazy feeling in right side of head, and steady pain in right orbital region. Can't study, head feels so badly; a sort of tired-out sensation in front and top of brain.*) *Also feeling of weight in uterus and right ovary, and nervous, fidgety feeling extending down right thigh.*

May 1st. Feel generally dilapidated and unfit for study; flowing more than usual.

9 A.M. 6 grains.

9.30 A.M. Grow more and more languid, heavy and sleepy, and feel most doleful in spirit; skin is beginning to assume a lovely saffron hue.

10.10 A.M. Knife-like pain in chest has returned; heavy, pressive feeling in forehead; *heaviness in uterus; feet like ice, and feel damp.*

11 A.M. 6 grains.

12 o'clock. Flowing too much; so sleepy, and try to sleep, but brain is too active, and thoughts persistently run in a minor key.

2.30 P.M. 6 grains.

3 P.M. Stitches in right ovary; same old pain in chest and shoulder.

Evening. Stitching pain through right parietal region.

May 2d. 9 A.M. 6 grains.

9.30 A.M. Return of pain in chest and shoulder; pains as of approaching diarrhœa.

11 A.M. 6 grains.

2.15 P.M. Terrible nervous feeling all over; particularly in arms and legs; can scarcely sit still.

Head heavy; *sleepy.*

May 3d. 3.30 P.M. Same awful nervousness of yesterday afternoon; feet like ice; pain in shoulder just gone; returns about 5.

May 8th. Took the last of 2d trituration May 2d; have experienced more or less trouble with shoulder and chest (always the right) every day since then. Last evening it grew worse, and this morning the pain is sharp and severe all the time, and increased by motion; much worse from taking deep breath.

Throughout the proving have taken my customary long walks; all symptoms except this shoulder and chest-pain disappearing

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out of doors and during sleep, excepting the few restless nights of which I have spoken; no pain at night, not even the chest-pain during sleep; still blue, don't like it.

The pain in the chest is just at the right of the sternum in middle lobe of lung.

Proving of 1st Trituration Carb. veg., 1 grain, by Mrs. F. J. M. Whitcomb.

November 19th. Took powder morning, noon, 6 P.M. and at night. In the evening between 6 and 7 had pain in *left* side, followed by a dull, heavy ache. This was in the region of the spleen.

November 20th. Took same amount, same time; P.M. from 4 to 6, heavy pain and pressure in left ovary, also in bladder, with urgent desire to urinate frequently, but voided but little; much flatulence; tendency to rush of blood to the head; cold feet; dull pain in region of kidneys, extending to scapula.

November 21st. Same amount; same time; in the P.M. from 1 to 5, pain in left iliac region and in sacrum; pressure in bladder; same desire to urinate all day and during the night.

November 22d. Did not take any powder, but the bladder symptoms remained; also had the same or similar pressure in rectum, but not the usual amount of fæces.

December 3d. Before breakfast took 4 grains.

9 A.M. Have dull pain in left side in region of spleen; in abdomen; left side (lumbar region) colicky pain, with a good deal of flatulence.

December 7th. Evening took 4 grains.

December 8th. Morning took 4 grains; at 12 dull, heavy pain in left side, in region of spleen; severe pain in left side of head; quite severe in temple, down the ear and neck, sharp, lancinating; sick feeling in stomach.

Morning. Evacuation lumpy, with mucus.

First and Second. Icy-cold hands; chill if leave fire; P.M., painful pressure on urethra; painful desire to urinate.

January 16th. Took 2d trituration; took 1 grain at 12.5 P.M.

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2 P.M. Excitement in the system generally; at evening, unusual chilliness; slight disturbance in left side in region of spleen; took powder on going to bed.

January 17th. Took same amount, morning; noon, some uneasiness in the stomach.

4 P.M. Pain in left side of head, back of temples, dull; eyes feel as though a little sore near inner canthus, left worse; 6 P.M., heavy dull pain in stomach; some pain in region of bladder; pass urine more frequently than usual and more of it.

April 17th. 3d trituration.

Noon. Took 1 grain.

5 P.M. A faint sinking feeling in stomach; confused feeling in occipital region.

5.30, 2 grains; 8.30, pain dull, but quite severe by spells in region of spleen and left ovary; a pressure in the bladder; desire to urinate, but pass but little; a faint feeling in stomach; a general depression. Pulse 80, weak.

9.30. Took 2 grains during the night; a pressure in bladder and a desire to void urine, but little passed; pain in both ovaries.

Early in the morning 5 to 6, sinking feeling and prostration; eructations.

7 A.M. Took 2 grains.

Between 11 and 12, dull pain in left side (same place as before).

Afternoon, 2. Very sleepy, irresistibly so; some pain in right side, in hypochondriac region; several times during the day itching, on the arms especially, no rash or redness; sinking feeling by spells during the day; constipated; frequent eructations; frequent tasteless eructations; some flatulence.

5 P.M. Took 6 grains. In fifteen minutes had dull pain in *frontal* region; eyes felt so weak could hardly open them; lids heavy; sightless but no pain; same dull pain in region of spleen; dull pain in small of back and stomach; empty eructations; *depressed*, very much so; dull pain in right kidney. These pains passed off in about an hour, but the depression lasted even the next day, and for several days there was a thick white mucous sediment in the urine; no change in quantity.

December 27th. 4 grains, 1st trituration, on retiring.

December 28th. 4 grains, half before breakfast.

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In the forenoon, between 10 and 12, dull pain in left side in region of spleen; 11, roaring in left ear, lasting several moments; a little later, ringing in right ear; *very* cold feet; very chilly though near fire; hands look purple, shrunken and cold; very cold feeling in back, between shoulders; pressive feeling in bladder, but no perceptible change in urine; dull pain in left iliac region. Took 8 grains on going to bed; no symptoms during the night; on arising felt nauseated; dull pain in right hypochondriac region.

12, took 16 grains; got no perceptible symptom that day; next morning there was a severe constriction in sphincter ani. I have had these symptoms a day or two after taking large doses of each trituration; although fæces were small there was sharp pain at first attempt to pass, or difficult relaxing of the muscle.

Proving by a young man, friend of F. J. M. Whitcomb, M.D., of Carbo veg., 3d trituration.

April 3d. S. M. W. took 2 grains, 3d trituration, morning, noon and night; no symptoms.

April 4th. Took 5 grains, morning, noon and night; no symptoms.

April 5th. 8 grains, morning and night.

April 7th. 10 grains, morning.

That day had *piles, protruding one-half inch and very sore (never had them before).*

This proving was made by a young man 18 years old; he smokes, and drinks coffee for breakfast; he has, however, a good constitution, good digestion, is usually cheerful and happy, but of a nervous temperament, intellectually bright and active; sometimes by spells during the winter he has been troubled with a dull pain in the bladder, voided an unusual quantity of water, and for a few weeks there has been a thick mucous sediment; for a week or ten days he had felt unusually depressed and weak. *Since taking the powders he has been in his usual health and spirits, more ambitious, and the urine is normal. The piles troubled him about three days; since then no trouble.*

November 19th, 20th, 21st. W. B. W.

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21*st*. P.M. Boring pain along urethra; aside from that no symptom.

April 17*th*. Took 4 grains, 3d trituration, morning, before dinner and supper one-half hour, and at night; no symptoms.

April 18*th*. Same amount; no symptoms.

April 19*th*. 8 grains morning and night; no symptoms.

April 20*th*. Same amount; no symptoms.

December 28*th*. W. B. W. took 4 grains, 1st trituration, morning and noon; *very cold feet;* in the evening unusually depressed; night took 8 grains; had to rise to void urine twice (unusual), rather larger quantity than usual; next day took 8 grains, morning; no symptoms; 8 at night, same amount of urine but no change in color.

Proving by Mrs. M. D. Crane, under direction of Dr. F. J. M. Whitcomb.

Age 62; call myself a well woman, this being the first course of medicine ever prescribed. Took at night one powder, and one in the morning. Had some cough caused by cold; could raise what collected through the night with less cough than usual. One before going to bed; *urine less, and not as often as is my habit.* Next day followed the same; 10 forenoon, had a pressure in my head; was ironing, and quite warm at the time; felt inclined to take hold of something for support if I turned quickly; after dinner was all right. About 7, had the same pressure and sleepiness; it was very difficult to control, as I was in company. I walked about the room and soon was better. Did not take any medicine next day until evening; slept well. Did not notice any change next day until evening; had the same sleepy feeling when I came to sit down; the same band about my head; it was quite an effort to use my hands; my work was more than usual at the time; was more on my feet. *I think my cough quite improved; have less collection of mucus.*

Remarks by Dr. Whitcomb.

The woman who gives this proving began in December, and expected to prove again and again; but she has had sickness in her family and severe cold herself. She said it was her habit to

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arise in the night three or four times to urinate, but after taking these powders she did not have to get up some nights at all; continues better in this respect. She is tall, of spare habit, light-blue eyes, auburn hair and fair skin, mild and quick, and lives very plainly and regularly; *never* takes medicine.

Proving by T. A. Hammond, Age, 23.

April 18*th*, 1877. 10 P.M.; took powder and retired; slept well.

April 19*th*. 6 A.M.; took one powder 6.50 A.M.; have a heavy feeling in the small of the back; 7 A.M. took one powder; pain in small of the back somewhat increased; urinate often.

8 A.M. Have a dull pain in or through the temples; also a dull darting or running pain in the left side, especially in the small of the back.

8.40 A.M. Sneezing, accompanied by a discharge from the nose, of a stringy, transparent mucus.

9.15 A.M. A full or pressing sensation through the bowels; extremities cold; pain through temples.

9.40 A.M. Throat sore on the left side; also a sharp pain in or through the left temple.

10.30 A.M. Pain mostly subsided in temples but quite severe in left cheek; soreness in throat increased.

11.35 A.M. Pain mostly gone from face; also throat better. Pain in left side and small of back subsided somewhat.

1 P.M. Took one powder; have the same pain in the head; throat quite sore.

3 P.M. Very sore across the bowels, especially in the lower portion; sneezing quite often.

4 P.M. Pain in bowels subsiding; pain in temples (both), quite severe; throat better.

5 P.M. Smarting in throat entirely gone; pain in bowels gone; some in left side also.

6 P.M. Pain in side all gone; some pain in left temple, only occasionally; bowels have been regular; ate very light food; have read most of the day.

1 P.M. Took one powder, 3d trituration; no effect.

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2 P.M. Took one powder; 2.20, a pain through the temples; 2.45, have a languid feeling or sensation; pain changing from temples to back part of head.

3.10 P.M. Took one powder; no change in location of pain or feeling.

3.40. Pain more severe in back of head; stomach feels as if it contained something heavy; quite thirsty, but water does not seem to appease thirst.

4 P.M. Took one powder.

4.10. Pain in back of head and back of neck quite severe, similar to neuralgia; more on right side of head and left side of neck.

5 P.M. Feel sick all over; pain in head and neck same as above; also a slight pain in right arm.

6 P.M. Feel sick, not in any particular place; have very little appetite; nothing tastes good; pain not quite so severe in head and neck; 6.30 P.M., feel not quite so sick; have eaten a little and feel quite better; quite a pain still in neck and back of head.

9.20 P.M. Pain almost all gone; feel quite thirsty and sleepy.

Remarks by Dr. Whitcomb.

This proving is by a young man of nervous lymphatic temperament, about five feet ten inches in height, very fleshy; *lives by eating* a good deal of rich food; does not use tobacco or any intoxicating beverage; is studying anatomy with me, but did not do much of anything while proving the medicine.

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IV.

SYMPTOMS ARRANGED ACCORDING TO PARTS OF THE BODY.

GENERAL feeling of dulness, with indifference to the wishes or presence of those around; weak feeling. (H. H. 2d trituration, after 9th dose).

Sick feeling all over (T. A. H., 3d trituration, one hour after 4th dose).

General depression; pulse 80, and weak.

Sinking feeling by spells during the day (F. J. M. W., 3d trituration, after 4th dose).

5. Sensitive to the air (W. E. G., 3d trituration, ten days after 72d dose).

Very much depressed for some time (F. J. M. W., 3d trituration, after 5th dose).

Unusual chilliness in evening (F. J. M. W., 2d trituration, after 2d dose).

Sinking feeling, prostration, and eructations early in morning (F. J. M. W., 3d trituration, after 3d dose).

Weak; cannot walk without getting tired and having the legs tremble (W. E. G., 3d trituration, twenty-eight days after 72d dose).

10. Irresistibly sleepy (F. J. M. W., 3d trituration, seven hours after 4th dose).

General excitement in system (F. J. M. W., 2d trituration, two hours after 1st dose).

Languor (F. A. H., three-quarters of an hour after 2d dose, 3d trituration).

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Does not feel so much like exercising as usual; goes to sleep about 5 or 6 P.M. (W. E. G., 3d trituration, one day after 72d dose).

Mind clear and rather happy (W. E. G., 3d trituration, about 7th dose).

15. Unusually depressed in evening (W. B. W., 1st trituration, after 2d dose, 8 grains).

Feels as if he had taken cold (H. H., 2d trituration, after 9th dose).

Confusion of ideas for a week (W. A. C., 1st trituration).

Some internal heat (W. A. C., 1st trituration).

General lassitude (E. E. H., 3d trituration, one hour after 4th dose).

20. Slow, weak pulse (58–60) in afternoon (W. O., Jr., twenty-two days after 15th dose).

Half awake through night; awoke tired, cross, and sleepy (E. E. H., 3d trituration, after 8th dose at 9 P.M.).

Sleepiness in afternoon (W. O., Jr., twenty days after 15th dose).

Sleeplessness until after midnight (R. R. T., 1st trituration, after 20th dose, 76 grains).

Gets little rest (H. H., 2d trituration, after 33d dose).

25. Sleepiness in the afternoon (W. O., Jr., after 5th dose).

Feels sore when lying on one side any length of time (H. H., 2d trituration, after 9th dose).

Restless at night (W. O., Jr., seven days after 15th dose).

Horrid dreams ending in nightmare (J. A. M., 1st trituration).

Sleeplessness (R. R. T., 1st trituration, after 23d dose, 91 grains.)

30. Sleeps with foot and arm uncovered, and feels that he has taken cold (H. H., 2d trituration, after 9th dose).

Sleeps badly; turns and tosses all the time; feels sore when lying on one side any length of time; cannot find a soft place (H. H., 2d trituration, after 9th dose).

Skin saffron (M. M., 2d trituration, after 9th dose, 36 grains).

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Itching, especially on the arms, with no rash nor redness (F. J. M. W., 3d trituration, after 4th dose).

Warm feeling, with free perspiration (D. M. D., 2d trituration, after 22d dose).

35. Free perspiration (D. M. D., 2d trituration, after 17th dose).

Crazy feeling in right side of head, and steady pain in right orbital region; tired-out sensation in front and top of brain (M. M., 2d trituration, after 8th dose, 30 grains).

Fourteen and a half hours after taking 9th dose, dull heavy frontal headache, without intermission, from noon until bedtime, with weak, dry, glassy eyes, which he wished to keep shut (T. L. B., 2d trituration).

Fulness and pressing-down of top of head; feeling of lateral distension of skull; itching all over the scalp; pressure over eyes, as if head were bound (H. H., 2d trituration, twenty-second day after 54th dose).

Head feels full, with soreness of the condyles of lower jaw (H. H., 2d trituration, after 30th (+ or —) dose).

40. Pain in occiput, from the trachea, drawing the head back (H. H., 2d trituration, after 9th dose).

Increasing pain in the temple (left), extending over top and sides of head; excruciating, dull and continuous (E. E. H., 3d trituration, immediately after 4th dose).

Sore feeling through temporal region, extending from side to side; worse on shaking head; came on before rising and lasted all day (T. L. B., 2d trituration, sixteenth day after 9th dose).

Throbbing ache through temples (W. E. G., 3d trituration, four days after 72d dose).

Tendency of blood to rush to head (F. J. M. W., 1st trituration, four hours after 5th dose).

45. Frontal headache, over right eye the most severe; boring, with slight dizziness; violent exercise caused it to extend into right eye, where it became quite sharp; sense of fulness in the brain (T. L. B., 2d trituration, sixth day after 9th dose).

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Afternoon, headache (W. E. G., 3d trituration, seventeen days after 72d dose).

Full, throbbing sensation in right temple, after violent exercise (T. L. B., 2d trituration, eleventh day after 9th dose).

Severe headache at 3 P.M.; eyes feel pressed back in orbits as far as the ears; worse on left side, on getting up or starting to move (W. O., Jr., six days after 15th dose).

Dull, afternoon headache (W. O., Jr., after 14th dose).

50. Pain in left side of head, darting and shooting toward parietal bone (W. O., Jr., seven days after 15th dose).

Intense headache; sharp pains in temporal region (D. M. D., 2d trituration, after 21st dose).

Severe headache on waking (D. M. D., 2d trituration, after 24th dose).

Slight pain in the left temple (E. E. H., 3d trituration, immediately after 3d dose).

Vertigo, aggravated by stooping (D. M. D., 2d trituration, after 17th dose).

55. Headache on rising or making any exertion (W. O., Jr., two hours after 4th dose).

Slight headache (D. M. D., 2d trituration, after 39th dose).

Scalp sore to touch (D. M. D., 2d trituration, morning after 30th dose).

General headache, pronounced in region of the brain (S. T. A., 1st trituration, after 3d dose, 18 grains).

Severe headache in temporal region (D. M. D., 2d trituration, after 15th dose).

60. Itching all over the scalp (H. H., 2d trituration, twenty-second day after 54th dose).

Pain in back of head on getting up; pain behind the ears (H. H., 2d trituration, after 9th dose).

Sensitive scalp; sore spot on vertex (W. E. G., 3d trituration, seventeen days after 72d dose).

Headache through temples (D. M. D., 2d trituration, after 27th dose).

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Slight headache (S. T. A., 2d trituration, after 5th dose, 10 grains).

65. Headache over eyes, extending to occiput (W. A. C., 1st trituration).

Fulness about sides of head, as if bursting; hardness of hearing, and pressure in the forehead, relieved by counter-pressure (H. H., 2d trituration, forty-one days after 54th dose).

Stitching pain through right parietal region (M. M., 2d trituration after 11th dose).

Fulness of head, with pressure from within outwards, as if it would burst (H. H., 2d trituration, thirty-nine days after 54th dose).

Severe pain in left side of head; quite severe in temples, down to ear and neck, sharp and lancinating (F. J. M. W., 1st trituration, after 12 grains).

70. Pressure in head and sleepiness (M. D. C.).

Dull pain in frontal region; eyes sightless, but no pain; lids heavy (F. J. M. W., 3d trituration, fifteen minutes after 5th dose, 13 grains).

Pain in left side of head back of temples; dull pain (F. J. M. W., 2d trituration, after 4th dose).

Sharp pain through left temple (T. A. H., three hours after 3d dose).

Dull pain in the temple (T. A. H., one hour after 3d dose).

75. Confusion in occipital region (F. J. M. W., 3d trituration, five hours after 1st dose).

Pain changing from temples to back of head (T. A. H., three-quarters of an hour after 2d dose, 3d trituration).

Pain through temples (T. A. H., half hour after 2d dose, 3d trituration).

Headache in the temples (W. E. G., 3d trituration, twenty-eight days after 72d dose).

Eyes weak; lids heavy; could hardly open them; sightless, but no pain; with frontal headache (F. J. M. W., 3d trituration, fifteen minutes after 5th dose).

80. Eyes weak, dry and glassy; disposed to keep them shut

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(T. L. B., 2d trituration, fourteen and a half hours after 9th dose).

Eyes feel a little sore over inner canthus (F. J. M. W., 2d trituration, after 4th dose).

Sensation as if meatus were closing up (W. E. G., 3d trituration, four days after 72d dose).

Catarrhal discharge from external auditory meatus (left) (W. E. G., 3d trituration, fifteen days after 72d dose).

Sensation as if the meatus (auditorius ?) were swollen and sore (W. E. G., 3d trituration, three days after 72d dose).

85. Hardness of hearing (H. H., 2d trituration, forty-one days after 54th dose).

Roaring in left ear, followed by ringing in right ear (F. J. M. W., 1st trituration, four hours after 2d dose).

Watery discharge from the nose (E. E. H., 3d trituration, after 7th dose).

Nose stopped with thick, yellow matter (W. E. G., 3d trituration, seventeen days after 72d dose).

Nares dry and hot at 8 P.M. (W. E. G., 3d trituration, twenty-eight days after 72d dose).

90. Coryza and mucous discharge (R. R. T., 1st trituration, after 20th dose, 76 grains).

Slight coryza during the day (R. R. T., 1st trituration, after 18th dose, 66 grains).

Fluent coryza (R. R. T., 1st trituration, after 12th dose, 36 grains).

Frequent sneezing (T. A. H., two hours after 4th dose).

Sneezing, with discharge of stringy, transparent mucus from the nose (F. A. H., one hour and two-thirds after 3d dose).

95. Sneezing (F. H. S., 1st trituration, two hours after 1st dose, 1 grain).

Aggravation of a chronic catarrh (F. H. S., 2d trituration, after 27th dose).

Toothache, swelled gums, and abscess of left lower wisdom-tooth (J. R. H., 3d trituration, four days after 21st dose).

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Pain severe in left cheek (T. A. H., three hours and a half after 3d dose).

Soreness of condyles of lower jaw, with fulness of head (H. H., 2d trituration, after 30th dose).

100. Small, watery blisters on lips (hydroa) (W. E. G., 3d trituration, one day after 72d dose).

Pain in glenoid fossa, with swelling at back of neck (H. H., 2d trituration, after 51st dose).

Burning of cheeks and nares (W. E. G., 3d trituration, seventeen days after 72d dose).

Dry, cracked, swollen lips (J. A. M., 1st trituration).

Alternate dryness of mouth with salivation (F. H. S., 2d trituration, 37th dose).

105. Dark-brown coat on the tongue (D. M. D., 2d trituration, after 30th dose).

Fissures of the tongue, with smarting vesicles around the edges (J. A. M., 1st trituration).

Secretion of viscid, then watery saliva (F. H. S., 2d trituration, after 33d dose).

Dryness of mouth, with thirst, alternating with salivation (F. H. S., 2d trituration, after 29th dose).

Mouth feels coated or painted over; taste as in measles (E. E. H., 3d trituration, morning after 8th dose).

110. Fissures in the tongue with enlarged papillæ (J. A. M., 1st trituration).

Tongue coated; bitter taste; flatulent (D. M. D., 2d trituration, 45th to 48th dose).

Canker-sore on inside of lip (R. R. T., 1st trituration, 26th dose, 106 grains).

Heavy white coat on tongue; complete loss of taste (W. A. C., 1st trituration, morning, after dose in evening).

Constricted feeling on sides of trachea on awaking, growing worse in an hour and a half and returning in the evening; pain on swallowing; pain extending to occiput, drawing head back (H. H., 2d trituration, after 9th dose).

115. Constricted feeling of throat and neck, with soreness and

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dryness of throat (H. H., 2d trituration, after 24th dose).

Tickling cough in larynx (relieved by Ipec.) (W. E. G., 3d trituration, twenty days after 72d dose).

Constriction of neck and throat, extending to cricoid cartilage, which is sore on pressure (H. H., 2d trituration, after 12th to 18th dose).

Burning in fauces, with a desire to cough (F. H. S., 1st trituration, after 15th dose).

Lungs and throat feel raw and scraped (E. E. H., 3d trituration, after 7th dose).

120. Swelling of tonsils, difficulty of swallowing, and pain on coughing (H. H., 2d trituration, fifty-first day after 54th dose).

Soreness and dryness of throat (H. H., 2d trituration, after 24th dose).

Soreness and dryness of throat, with raising of thick, yellow mucus and discharge from posterior nares (H. H., 2d trituration, forty-eighth day after 54th dose).

Raised mucus with less difficulty than before (M. D. C., had a cough).

Sore throat, with feeling of languor (T. L. B., 2d trituration, seventeenth day after 9th dose).

125. Pressure on thyroid gland (F. H. S., 1st trituration, twelve hours after 11th dose).

Throat sore on left side (T. A. H., three hours after 3d dose).

Throat slightly sore (F. H. S., 1st trituration, two hours after 4th dose).

Soreness in throat, with tickling (F. H. S., 2d trituration, six hours after 17th dose).

Raising a little white, tasteless mucus from throat (F. H. S., 1st trituration, half an hour after 4th dose).

130. Thirst, alternating with slight salivation (F. H. S., 2d trituration, after 12th dose).

No appetite for several days (H. H., 2d trituration, thirty days after 54th dose).

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Taste as of lime in the mouth (H. H., 2d trituration, after 9th dose).

Nausea and loss of appetite (D. M. D., 2d trituration, after 21st dose).

Breath fetid in the evening, continuing through following day (T. L. B., 2d trituration, twelfth and thirteenth days after 9th dose).

135. Offensive breath (T. L. B., 2d trituration, ninth day after 9th dose).

Little appetite (T. A. H., 3d trituration, two hours after 4th dose).

Nausea without vomiting (D. M. D., 2d trituration, 25th dose).

Nausea on rising in morning (F. J. M. W., 1st trituration, after 3d dose).

Heavy, dull pain in stomach (F. J. M. W., 2d trituration, after 5th dose).

140. Sick feeling in stomach (F. J. M. W., 1st trituration, after 12 grains).

Symptoms of flatulence (S. T. A., 2d trituration, after 3d dose, 6 grains).

Feeling of goneness in the stomach and general lassitude (E. E. H., 3d trituration, one hour after 4th dose).

Much flatulence (F. J. M. W., 1st trituration, four hours after 6th dose).

Gulping up sour and bitter substances; belching up bitter fluid one hour after eating (W. E. G., 3d trituration, about the 7th dose).

145. Gulping up sour, bitter fluids and solids (W. E. G., 3d trituration, after 12th to 15th dose).

Some uneasiness in stomach (F. J. M. W., 2d trituration, after 5th dose).

Sensation of something hard in the stomach; sour, bitter eructations, which relieve (E. E. H., 3d trituration, immediately after 5th dose).

Heavy feeling in stomach; thirst, which water does not quench (T. A. H., 3d trituration, half an hour after 3d dose).

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Eructations of wind, with sickness (F. H. S., 2d trituration, 39th dose).

150. Bloating of stomach (F. H. S., 1st trituration, twelve hours after 11th dose).

Slight nausea (W. A. C., 1st trituration).

Sour burning in stomach (J. A. M., 1st trituration).

Faint, sinking feeling in stomach (F. J. M. W., 3d trituration, five hours after 1st dose).

Frequent eructations; tasteless eructations; flatulence (F. J. M. W., 3d trituration, after 4th dose).

155. Faint feeling in stomach (F. J. M. W., 3d trituration, three hours after 2d dose).

Dull pain in stomach; empty eructations (F. J. M: W., fifteen minutes after 5th dose, 3d trituration).

Pain as of approaching diarrhœa (M. M., half hour after 12th dose, 2d trituration, 54 grains).

Feeling of emptiness in abdomen (M. M., 2d trituration, one and three-quarter hours after 6th dose).

Feeling as of a stone below the umbilicus (H. H., 2d trituration, thirteen days after 54th dose).

160. Pain in lower part of abdomen, with tendency to draw up the legs; slight tenderness on pressure; lasted from 11 A.M. until night (F. L. B., 2d trituration, fourteenth day after 9th dose).

Dull pain in region of spleen; colicky pain in left lumbar region, with a good deal of flatulence (F. J. M. W., 1st trituration, after dose of 4 grains).

General soreness over abdomen; sore to touch; abdomen feels full and hard; darting pains, running through and up to stomach (H. H., 2d trituration, thirty days after 54th dose).

Fulness or pressing through the bowels (F. A. H., two hours after 3d dose).

Bloated abdomen (F. H. S., 1st trituration, two hours after 10th dose).

165. Soreness from umbilicus through to spine and up to shoulders (H. H., 2d trituration, sixteen days after 54th dose).

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Pain, followed by dull, heavy ache in region of spleen (F. J. M. W., 1st trituration, after 3d dose).

Dull pain in right hypochondrium (F. J. M. W., 1st trituration after 3d dose).

Feeling of tight band around waist (J. A. M., 1st trituration, 2d dose).

Pressive pain in epigastrium (F. H. S., 2d trituration, eight hours after 37th dose).

170. Very sore across bowels, especially lower portion (T. A. H., two hours after 4th dose).

Some pain in right hypochondrium (F. J. M. W., 3d trituration, seven hours after 4th dose).

Slight disturbance in region of spleen (F. J. M. W., 2d trituration, after 2d dose).

Dull pains in region of spleen, severe by spells (F. J. M. W., 3d trituration, three hours after 2d dose, in all 3 grains).

Dull pain in left iliac region (F. J. M. W., 1st trituration after 2d dose).

175. Dull pain in region of spleen (F. J. M. W., 1st trituration, thirty-five hours after 2d dose, 8 grains).

Stool of dark color, passed with difficulty, about the size of a pencil, small and attended with great straining (H. H., 2d trituration, after 30th dose).

Severe constriction of sphincter ani; sharp pain in first attempt to evacuate, although fæces were small; difficulty in relaxing the muscle (F. J. M. W., 1st trituration, after 4th dose, 32 grains).

Diarrhœic stool ending in a gushing, watery evacuation (F. H. S., 1st trituration, after 5th dose).

Fetid wind from rectum (F. H. S., 1st trituration, after 3d dose).

180. Passage of badly smelling flatus (F. H. S., 2d trituration, after 18th dose).

Evacuations of wind (F. H. S., 1st trituration, after 13th dose).

Constipation (F. H. S., 2d trituration, five hours after 4th dose).

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Slight constipation (R. R. F., 1st trituration, after 9th dose, 27 grains).

Feeling as if sphincter ani would give way (W. O., Jr., three days after 15th dose).

185. Constipation (W. O., Jr., twenty days after 15th dose).

Constipated; sensation as if hæmorrhoids would come down, with sharp, cutting pains in the anus (W. O., Jr., first day after 15th dose).

Diarrhœa in the night, with restlessness (T. L. B., 2d trituration, seventeenth to eighteenth day after 9th dose).

Hard, brownish stool; abdomen sore and hard; painful when lying on left side (H. H., 2d trituration, after 24th dose).

Hard, brownish stool (in balls) at 7 P.M. (H. H., 2d trituration, after 8th dose).

190. Bowels moved once (D. M. D., 2d trituration, day after 39th dose).

Bowels moved at 2 A.M. (D. M. D., 2d trituration, after 27th dose).

Piles, protruding for half inch and very sore (S. M. W., 3d trituration, after 9th dose, in all 47 grains).

Slight looseness of bowels, followed by copious, soft, brownish stool; followed a few hours later by two others (H. H., 2d trituration, after third day, 5th dose).

Slight looseness of bowels (T. L. B., 2d trituration, eighth day after 9th dose).

195. Constipation (F. J. M. W., 3d trituration, after 4th dose).

Loose stool, with tenesmus (F. H. S., 1st trituration, first day after 3d dose).

Costive stool (J. A. M., 1st trituration, 1st dose).

Bowels loose but regular (D. M. D., 2d trituration, after 22d dose).

Constipation for several days (W. E. G., 3d trituration, ten days after 72d dose).

200. Bowels constipated (J. A. M., 1st trituration).

Diarrhœa, with cold hands and feet and loss of appetite (D. M. D., 2d trituration, 25th dose).

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Evacuations lumpy, with mucus (F. J. M. W., 1st trituration, after 12 grains).

Slight constipation (W. A. C., 1st trituration).

Bowels moved twice (D. M. D., 2d trituration, day after 33d dose).

205. Pressure in rectum, less than usual discharge (F. J. M. W., 1st trituration, one day after 12th dose).

Bowels moved three times (D. M. D., 2d trituration, morning after 30th dose).

Passage of wind, with loose stool (F. H. S., 2d trituration, after 5th dose).

Urine free and light-colored (W. E. G., 3d trituration, after the 12–15th dose).

Urine light, nearly colorless; constant urging (F. H. S., 2d trituration, three hours after 22d dose).

210. Urine less in quantity, and not voided so frequently (M. D. C.; had been obliged to get up three times in night).

Desire to urinate; large quantity of pale urine (J. A. M., 1st trituration).

Urine profuse (voided) often, and white (W. A. C., 1st trituration).

Nightly emissions (D. M. D., 2d trituration, after 22d dose).

Urine dark-colored and scanty (D. M. D., 2d trituration, after 22d dose).

215. Urine dark and scanty (D. M. D., 2d trituration, day after 33d dose).

Urine greatly increased (W. O., Jr., twenty days after 15th dose).

Urine dark-colored (D. M. D., 2d trituration, after 15th dose).

Boring pains along urethra (W. B. W., 1st trituration).

Urine dark-colored and scanty; passed with stinging pain (H. H., 2d trituration).

220. Pressure in bladder; desire to urinate all day and night (F. J. M. W., 1st trituration, after 8–12th dose).

Obliged to void urine twice in night (W. B. W., 1st trituration, after 3d dose, 16 grains).

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Urine light-colored (W. E. G., 3d trituration, ten days after 72d dose).

Heavy pain and pressure in bladder, with urgent desire to urinate frequently, but voids little; dull pain in region of kidneys, extending to sacrum (F. J. M. W., 1st trituration, four hours after 6th dose).

Pressure in bladder, with desire to urinate, but pass little (F. J. M. W., 3d trituration, three hours after 2d dose).

225. Pressure in bladder during the night and desire to urinate, but little passed (F. J. M. W., 3d trituration, after 3d dose, 5 grains).

Painful pressure in urethra; painful desire to urinate (F. J. M. W., 1st trituration, after 12 grains).

Some pain in bladder; void more urine, and oftener than usual (F. J. M. W., 2d trituration, after 5th dose).

Pressive feeling in bladder (F. J. M. W., 1st trituration, after 2d dose).

Urine dark and scanty (D. M. D., 2d trituration, day after 39th dose).

230. Urinates often (F. A. H., after 3d dose).

Urine increased (W. B. W., 1st trituration, after 3d dose).

Desire to urinate all the time (F. H. S., 2d trituration, after 12th dose).

Feeling as though menses would appear (W. M., 3d trituration, after 13th dose, 47 grains).

Menses appeared without premonitory state of discomfort (H. H. C., 1st trituration).

235. Menstrual flow thicker than usual (F. H. S., 1st trituration, two hours after 1st dose, 1 grain).

Heavy pain and pressure in left ovary (F. J. M. W., 1st trituration, after 6th dose).

Menses delayed (H. H. C., 1st trituration).

Feeling of weight in uterus and right ovary; also nervous feeling extending down thigh (M. M., 2d trituration, after 8th dose, 30 grains).

Character of leucorrhœa changed (F. H. S., 2d trituration, 2d dose).

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240. Clots appear in menstrual flow (F. H. S., 1st trituration, two hours after 1st dose).

Menses shorter than usual (H. H. C., 1st trituration).

Menses slight (H. H. C., 1st trituration).

Unusual amount of pain, and profuse menstrual flow (H. H. C., 1st trituration).

Heaviness in uterus (M. M., 2d trituration, one hour after 9th dose).

245. Decided pains in uterus (M. M., 2d trituration, half an hour after 3d dose, 9 grains).

Wretched, nervous feeling, beginning in the uterine region and culminating in inner thighs (M. M., 2d trituration, after 3d dose, 9 grains).

Menses preceded by several quite sharp uterine pains (M. M., 3d trituration, after 19th dose).

Contraction of genital organs (S. T. A., 1st trituration, after 9th dose, 9 grains).

Dreamed he had gonorrhœa (T. L. B., 2d trituration, two days after 9th dose).

250. Pain in testicles several days; pain at end of penis, with burning and stinging; erections three nights running; waking from sleep (H. H., 2d trituration, thirty days after 54th dose).

Continuous sharp pain in shoulder; worse on motion (M. M., 2d trituration, immediately after 6th dose).

Hot constricted feeling in the chest, causing dyspnœa and a short, dry cough; very much troubled for breath (J. A. M., 1st trituration).

Coughing on speaking aloud; sense of swelling in trachea, with soreness and sickish feeling in upper part of chest (W. E. G., 3d trituration, eleven days after 72d dose).

Hoarseness lasting all day; dull pain under upper part of sternum; dry, painful cough, raising a little tenacious mucus (W. E. G., 3d trituration, ten days after 72d dose).

255. Taking a deep breath relieves throbbing of heart for a few minutes (F. H. S., 2d trituration, after 11th dose).

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Coughing quite frequent; worse in house (W. E. G., 3d trituration, ten days after 72d dose).

Heart's action disturbed (J. A. M., 1st trituration).

Dry cough at 1 P.M. (W. E. G., 3d trituration, nine days after 72 dose).

Palpitation on going upstairs (J. A. M., 1st trituration).

260. Cough during the night; had to get up at 3½ A.M. to avoid choking; feverish in the morning; thick, viscid sputa; headache and weakness (W. E. G., 3d trituration, twenty-eight days after 72d dose).

Heart feels pressed down, so that action can scarcely be felt (H. H., 2d trituration, after 33d dose).

Can scarcely move right shoulder, because of a knife-like pain from shoulder through to chest (M. M., 3d trituration, three hours after 6th dose, 18 grains).

Coughing up phlegm, with gagging, and raising saltish mucus; cough increasing during the day; nose stopped with thick, yellow matter, with burning of cheeks and nares; headache (W. E. G., 3d trituration, seventeen days after 72d dose).

Tenderness over apex of heart, worse on coughing or lying down, better from rising (H. H., 2d trituration, twenty-seventh day after 5th dose).

265. Stitching pain in region of heart (H. H., 2d trituration, thirty-third day after 54th dose).

Faintness and shortness of breath, with pressed-down feeling of heart (H. H., 2d trituration, after 33d dose).

Sharp, shooting pain while lying on left side (H. H., 2d trituration).

Obliged to lie on right side; gets little rest; heart feels pressed down (H. H., 2d trituration, after 33d dose).

Increased pain in right side, with shortness of breath (H. H., 2d trituration, forty-one days after 54th dose).

270. Hacking cough (F. H. S., 1st trituration, half an hour after 4th dose).

Marked palpitation (J. A. M., 1st trituration).

Pain in right shoulder and chest (M. M., 2d trituration, after 1st dose, 3 grains).

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Hard pain in chest (M. M., 3d trituration, after 8th dose, 25 grains).

Hard pain in right shoulder (M. M., 3d trituration, after 8th dose).

275. Pain in right shoulder and chest, increasing in severity (M. M., 2d trituration, one to six days after 13th dose, 60 grains).

Sharp stitch in lumbar region (M. M., 3d trituration, two hours after 1st dose, 3 grains).

Dull pain in region of right kidney; thick white mucous sediment in urine for several days (F. J. M. W., 3d trituration, after 5th dose).

Same feeling in region of sciatic notch while standing and walking, more on right side than left; lameness extends across the sacrum (F. H. S., 2d trituration, after 12th dose).

Tired round hips and sacrum; had to lie down, which relieved the feeling (F. H. S., 2d trituration, five hours after 18th dose).

280. Swelling at back of neck (H. H., 2d trituration, after 51st dose).

Awakened with stiffness of left sterno-cleido-mastoid, sore to touch; cervical glands enlarged in mastoid region, and immediately back of left ear (W. E. G., 3d trituration, three days after 72d dose).

Oppression in dorsal region when stooping (F. H. S., 2d trituration, after 12th dose).

Very chilly, though near fire; cold feeling in back, between shoulders (F. J. M. W., 1st trituration, after 2d dose).

Pressure between shoulders (F. H. S., 2d trituration, one hour after 13th dose).

285. Dull pain along the spine (R. R. T., 1st trituration, three days after 28th dose, 126 grains).

Pain in back of head and neck, right side of head and left side of neck (F. A. H., 3d trituration, half an hour after 4th dose).

Soreness of small of back, coming on gradually; fine dart-

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ing pains at times (W. E. G., 3d trituration, first day after 72d dose).

Constricted feeling of throat and neck, with soreness and dryness of throat, with raising of thick yellow mucus, with quite free discharge from posterior nares (H. H., 2d trituration, forty-eighth day after 54th dose).

Chilliness in back (W. E. G., 3d trituration, nine days after 72d dose).

290. Posterior cervical muscles painful to touch (R. R. T., 1st trituration, three days after 28th dose, 126 grains).

Swelling at back of neck, with pain in the glenoid fossa, gone (H. H., 2d trituration, fourth day after 54th dose).

Soreness from spine up to shoulders, from lumbar region, and beginning at umbilicus (H. H., 2d trituration, sixteen days after 54th dose).

Pain in left iliac region and sacrum (F. J. M. W., 1st trituration, one hour after 10th dose).

Heavy feeling in small of back (F. A. H., fifty minutes after 2d dose).

295. Dull darting or running pain in left side, especially in small of back (F. A. H., one hour after 3d dose).

Pressure on sacral region (F. H. S., 2d trituration, after 20th dose).

Pressure between shoulders (F. H. S., 2d trituration, after 44th dose).

Pressure between scapulæ (F. H. S., 2d trituration, one day after 13th dose).

Feet feel as though dipped in cold water (M. M., 2d trituration, after 6th dose).

300. Creeping pains in knees (M. M., 3d trituration, half an hour after 16th dose, 62 grains).

Drawing pain in right hip, lasting from noon until night (T. L. B., 2d trituration, seventh day after 9th dose).

Continued tingling in left Scarpa's triangle (site of an old abscess) (F. H. S., 1st trituration, four days after 16th dose).

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Sharp pain on outside of hip and thigh, lasting all day until evening (T. L. B., 2d trituration, sixth day after 9th dose).

Cold feet (F. J. M. W., 1st trituration, four hours after 6th dose).

305. Darting pain, right great toe, running up to ankle (J. A. M., 1st trituration, 2d dose).

Very cold hands; chill on leaving fire (F. J. M. W., 1st trituration, after 12 grains).

Feet moist (H. H. C., 1st trituration).

Right hand inclined to go to sleep (W. E. G., 3d trituration, after 66th, 69th dose).

Weakness in lower limbs (D. M. D., 2d trituration, after 17th dose).

310 Very cold feet (W. B. W., 1st trituration).

Feet tender and swollen (H. H. C., 1st trituration).

Cold extremities (F. A. H., two hours after 3d dose).

Feet feel like ice, and damp (M. M., 2d trituration, one hour after 9th dose).

Burning heat in left foot (M. M., 3d trituration, one hour and three-quarters after 17th dose, 67 grains).

315. Cold feet (F. H. S., 1st trituration, five hours after 14th dose).

Twitching of thumb of right hand; legs and arms inclined to go to sleep, with beating and bubbling sensation in the right deltoid (W. E. G., 3d trituration, six hours after 71st dose).

Legs tired when walking (F. H. S., 1st trituration, eleven hours after 7th dose).

Very cold feet (F. J. M. W., 1st trituration, after 2d dose).

Lower limbs ache in the morning (D. M. D., 2d trituration, after 30th dose).

320. Heavy, sleepy feeling in legs and arms; feeling as if pressing bone apart in hollow of left foot, when putting foot down; dull pain at internal condyle of left femur (W. E. G., 3d trituration, two days after 72d dose).

Cold hands and feet (D. M. D., 2d trituration, after 21st dose).

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Feet cold; gait unsteady, especially on going upstairs (W. A. C., 1st trituration).

Legs and arms numb, as if going to sleep (W. O., Jr., twenty days after 15th dose).

Hands look purple, shrunken and cold (F. J. M. W., 1st trituration, after 2d dose).

325. Involuntary movements of hands and feet (W. O., Jr., twenty days after 15th dose).

Cold hands and feet (D. M. D., 2d trituration, after 15th dose).

Hands and feet sweaty (W. E. G., 3d trituration, four days after 72d dose).

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V.

*SYMPTOMS OBSERVED WITHOUT TAKING MEDICINE.**

Miss M. M.

GENERAL health good; seldom have an ache or pain of any description; usually feel comfortable and pleasant. At the time of beginning this proving, was within two days of menstruation; menses always regular and without pain, but with tendency to too profuse flowing.

October 26th. At 12 o'clock took 1 grain of drug.

At 2.10, have slight nausea.

2.30. Rheumatic pain on radial side of right arm, extending from elbow to hand.

At 3 o'clock, heaviness in head, heat in face, especially in eyes, mostly on right side.

At 4 o'clock, took 1 grain of drug; took a long walk. During the evening experienced great heaviness and drowsiness.

At 8.45, aching pain in right frontal region; nervous all over; can't keep still.

October 27th. 7.20 A.M. 3 grains. Fearfully heavy and sleepy all the morning, and irritable.

11 A.M. Neuralgic pain in right frontal eminence, streaking down into malar bone; slight pain in right ovary.

12 o'clock. Weakness of knees; stitches in right lung.

From 12 to 4 P.M., stitches in middle lobe of right lung.

At 4 P.M., took 3 grains of drug.

4.15. Drowsy and try to sleep, but grow so despondent that I am obliged to rise.

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* See page 6 of this report.

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At 5.30, chilliness; chills running down back and arms; very restless through the night.

October 28th. 7 A.M. 4 grains.

7.10. Chills down the back. Took a walk at 8, and felt well in the open air, but on coming into a warm room, have dull heated sensation in head and eyes, with sleepiness.

At 9.30, sharp stitch in left chest, with lingering pain; dry heat in face; stiffness of eyelids.

10.10. Chilly all over, with dry lips and hands; pulse weak and intermitting; dulness of comprehension; can't study; *very* irritable.

11 A.M. Took 4 grains.

At 11.15, heavy, dead feeling in right leg, from hip to knee, with dull pain in the bone, which lasts nearly an hour.

3.15. Took 4 grains.

At 4 o'clock, dull ache in sacral region.

At 7, slight swelling of face from median line of upper lip around to symphysis of chin, with hard bunches under the skin, also in edge of hair, all on right side; sleep restless.

October 29th. Whole right half-side of face swelled and exceedingly tender to the touch; subsides gradually toward evening; sleep a failure and ill temper very marked; feel cross, discouraged, disconsolate and tearful.

October 31st. 7 A.M., 5 grains. Menstruation now delayed three days; much pain in sacral region, of a heavy aching character, which is entirely new for me; no symptoms during the day, excepting much thirst and rising of food in throat with sour taste; at night there is an eruption on thighs and arms with itching; frequent sneezing.

November 1st. At 9 A.M. 8 grains. During forenoon sharp, constant pain in middle lobe of right lung, with stitching pains in the ovaries—right and left in alternation; sneezing.

5 P.M. Appearance of menses after delay of five days.

November 2d. Very profuse flowing.

November 3d. Very profuse flowing.

November 4th. Flowing subsides somewhat; same pain in right lung, with a feeling of soreness and lameness; eruption on thighs and arms disappears gradually.

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All through the proving have had itching of the scalp, and have been very cross and ill-tempered. Have taken my usual long walks; all symptoms disappearing in the open air, but returning upon coming indoors.

November 13th. Have taken none of the drug since November 1st, and the stitching in right lung still continues, troubling me at times during a whole day, with the same lameness and sore feeling. All other symptoms have entirely disappeared.

Proving of Drug by Mrs. L. G. B.

Age 38. Nullipara. Light complexion, blue eyes, dark-brown hair. General health very good. *Never have headaches*, appetite good, digestion good (except slight tendency to constipation), and sleep like a child.

Circulation sluggish; menstruation regular but somewhat scanty; no pain or disturbance of system; slight tendency to urinary irregularities; pain in right kidney from taking cold; scanty urine, etc.

Commenced remedy, October 26th, at 12 M., an hour before eating; no symptoms. Second dose at 4 P.M.; no symptoms. Third at 8 P.M.

On the second morning felt a sense of constriction across the forehead with pain, also pain in left eyeball; mental symptoms delightful, felt entirely at ease about everything.

On the second day took 2 grains at 7 A.M., followed at 10 and 11 A.M. by increased sense of constriction in forehead, as if a tape were tightly drawn just above the frontal sinuses; shooting pains in teeth on left side, and pain in left eyeball; head very heavy and dull, but mind and nerves extremely serene.

Repeated 2 grain dose at 12 M. and 4 P.M.; hot hands and feet (burning hot) at 6 P.M.; pain in left knee, and a sensation of drawing of tendons above the knee while walking; wandering stitches of pain while walking outdoors; uneasiness and *pain* in rectum during entire evening; pressing, *dragging* pain in rectum, like the after effects of certain cathartics; a return of wandering stitches of pain in left lower extremities.

Another dose at 8 P.M.

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Slept well, but upon rising in A.M., felt the same headache as if a tape were drawn across the forehead, with a feeling of *stiffness* of eyelids whenever moved; headache a marked symptom, being normally entirely free from anything of the kind.

Repeated dose at 7 A.M.

Headache much worse after breakfast; also a *sticking pain in chest* under the sternum or a little to the left; marked pains in various parts of chest of a sharp, pricking character; *painful* bearing down in rectum and labia, with sharp pains through bladder and in left inguinal region.

Repeated dose at 11 A.M., 3 grains.

Increase of pains in rectum, followed in afternoon by several very loose evacuations like a mild cathartic (no constitutional tendency whatever to diarrhœa); marked diminution of urine, which now stains the vessel reddish-brown, and has *much sediment;* pain in left parotid gland lasting several hours; head all right in afternoon.

After this took about 5 grain doses three times a day, and noted symptoms as follows: Dull ache in left side of head and in left eye, worse in morning and after breakfast; chill at night, midnight, confined mostly to the spine and spreading thence to extremities, followed by slight fever; very dry parched tongue, coated yellowish brown; heavy oppressive feeling in the head; dulness of mind; sediment and brown staining of vessel more marked in urine; also shiny, greasy patches floating on the surface; acid reaction as usual (one dose Lyc. 3d removed the urinary symptoms).

Smarting in the throat and air-passages generally; a feeling as if the bridge of the nose were held between the thumb and finger; *aching in superior maxillary bones;* burning in rectum; eructations and "heartburn;" mind becoming greatly confused; forget sentences I am about to utter; can't remember the sentences I am about to write.

Dose largely increased. Mental symptoms reversed. Anxious and worried; easily annoyed; capricious and *cross* about trifles; restless, labored sleep; limbs nervous and twitching; get up tired every morning from working in my dreams, or rouse up every few moments with the same dream; spent one whole night

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rousing up every few moments, repeating to myself, "China 200th for gall-stones."

Entire change in action of the bowels, the diarrhœa of the one day being followed (and is still followed) by most obstinate constipation; frequent ineffectual urging; smarting of fauces and œsophagus as if from swallowing hot drink; lancinating pains in left inguinal region, always worse at about 11 A.M.; sharp pains in right tibia; an *aching* of the bone about its middle; sharp pains in bladder and rectum; excessive heat and restlessness at night; eruption on right side of face, bright red points under the skin, the size of a pinhead (*no constitutional tendency to eruptions*); *violent itching of the scalp for many days; decrease of pulse with tendency to intermit;* roaring in head and ears; morning, frontal headache, a constant symptom; over-sensitive to sounds, even musical sounds.

After having been a week without taking the remedy the persistent symptoms that I notice are as follows:

A *tenderness* of the *stomach* and a *faint*, full feeling; heartburn; sleep full of dreams and *hard work;* dullness of intellect passing away; constipation still obstinate; a *constriction* of the rectum; the sensation in the stomach is as though the whole mucous lining were inflamed and sore; puffed up.

[Menses on time, but *marked increase* in quantity, and in quality *thin* and *pale;* dragging pains in uterus and vulva, *no pain* whatever normally.]

Proving by Mrs. F. H. S.

Have been married thirteen years; two children; oldest 10; youngest 6 years.

When I was three months old was taken with a "bilious attack," yellow, bitter, sour vomiting, sometimes a tablespoonful of bile at a time (so my mother says). Was treated in the usual way of old school of that time until five years of age, when they stopped doctoring and concluded to let me outgrow the tendency, which I proceeded to do from that time.

At sixteen years had scarlet fever for the third time; at seventeen had what Dr. Warner, of Buffalo, called typhoid fever, which passed off in a carbuncle or abscess in the groin; four

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years ago had congestion of lungs; one year ago had typhoid fever; have had prolapsus of vagina once before marriage from too much standing as a school teacher; had it again after marriage, and after the birth of each child; have not felt anything of it until towards the end of the proving this medicine, when I felt it slightly.

October 29th, 1876. The third day of menstruation took the medicine, about half a grain, at 3 P.M.; at 9 P.M. a constriction under the sternum, with the inspiration more difficult than the expiration, lasting only a few moments; was sitting.

October 30th. Took medicine 7 A.M.; directly a sick feeling passed down the œsophagus, ending in a slight pain in the umbilical region, resulting in about five minutes in diarrhœa of small pieces of fecal matter mixed with froth, with bilious eructations; in one hour a second discharge of same, with no eructations, after which came out a cold or fever sore on under lip, which throbs, and a pimple under the right ala of nose.

12 M. Menstrual discharge thin, with less of fetid smell.

7 P.M. Sore on lip still throbbing, the cuticle over its surface desquamating without suppurating; dimness of sight in right eye, with sense of burning in inner canthus; nostrils dry; mouth moist; no thirst, though I have been suffering from intense thirst for some weeks; apparent swelling of tongue, as if too large for mouth, entirely gone.

October 31st. Took medicine 6.30 A.M.; at 7 A.M. had a discharge of watery mucus from posterior nares, with a feeling of swelling of same, with soreness.

9 A.M. Deepseated pain above the symphysis pubis, lasting a few minutes.

10 A.M. Feeling of heavy dulness in forehead passing away quickly.

1 P.M. Spit up undigested food, without nausea (after dinner).

3 P.M. A drawing downwards of the umbilicus, with eructations without smell or taste.

4 P.M. Took medicine; in a few minutes a sharp pain darting from the right anterior spine of ilium to symphysis pubis; pimple near ala of nose gone, but the sore on under lip throbbing.

4.15. A sharp pain under left anterior superior spine of ilium,

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followed some minutes after by a sharp pain above the symphysis pubis.

5 P.M. Burning pain in right parietal bone, with external heat of the same.

10.30 P.M. Took medicine; almost directly a pain in lower jaw, followed by heavy throbbing in forehead, apparently above the ethmoid bone.

10.50 P.M. Wrists weak, with enlargement of the veins of hand, which are swollen, dry and hot; pulse sixty, soft and full (my natural pulse is weak and intermittent).

November 1*st*. Woke before 6 A.M. from unpleasant dreams of dark places.

6.30. Took medicine.

9 A.M. A sharp, burning pain about the size of a silver dollar under the anterior superior spine of ilium, followed in half an hour by increased watery discharge from vagina, yellowish color, sickly fetid smell, the menstrual flow lasting longer than usual; burning in urethra after micturition.

2 P.M. Took medicine; in a few minutes a drawing down and in of the umbilicus, with a little sharp pain over the symphysis pubis; eructations of wind; desire for stool, which is ineffectual (standing).

5 P.M. Itching and burning about sphincter ani.

6.45. Pressing pain in brain, along and under the right parietal bone, twice repeated; the first time with dull throbbing in frontal region; pressing outwards of abdominal viscera, sometimes relieved by eructations, at others not.

Before taking this medicine was obliged to pass water every hour; could hardly wait; now can wait for the usual time, three or four times a day; also leucorrhœa not so much nor so acrid as before.

During this proving of half-grain doses, made no difference in diet; took coffee, etc., as usual.

November 13*th*. 6 A.M. Took 1 grain of the medicine; in a few minutes throbbing in forehead.

7 P.M. After a short walk, bearing-down pains from sacro-iliac synchondrosis, resembling labor pains, with leucorrhœa while standing.

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7.30. Throbbing in forehead; continued bearing-down in pelvis, not so marked; irritable and restless, especially in the lower limbs, with leucorrhœa, while sitting.

10 P.M. Head heavy, feel unusually sleepy; pelvic pains almost gone.

10.30. Nausea, but cannot vomit; throbbing still in forehead, a sensation as of a band being bound on the forehead; on going to bed a pain in lower jaw.

11 P.M. Took medicine.

October 14*th*. Woke from dreams of wandering through dark places, with throbbing still in forehead.

9 A.M. Took medicine; all the morning feeling of band round forehead; hard work to think.

12 M. Took medicine.

2.30. Pains around umbilicus; desire for stool with inability; pain partially relieved by eructation of wind; was hardly able to take notes, could not think.

8 P.M. Feeling of band on forehead almost gone; leucorrhœa slight but muco-purulent, staining clothes yellow.

9 P.M. *Very* restless; bearing-down pains around hips, running down thighs.

11 P.M. Itching of anterior portion of vulva, so that it is almost impossible to keep still; after getting in bed a stricture over the sternum with a dry cough, which seemed to shake the whole body.

November 15*th*. Woke up with an unpleasant taste in mouth, tongue white and swollen, left lower jaw and upper lip swollen; after walking to school the bearing-down pains in hips returned, lasting for an hour.

11 A.M. Took medicine; almost immediately a sick feeling passed from head over the whole body.

12 A.M. Pressure again in forehead with throbbing on effort to think; great desire for stool, but pass only wind.

1 P.M. Chills running down back in warm room; forehead still heavy; weakness in wrists all day; towards evening can remember better.

5.30. Took medicine.

7 P.M. Pressing-out feeling in abdomen, with stitches of pain in hypogastric region; leucorrhœa scanty but thick and yellow,

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coming apparently from glands on anterior part of vulva, with a sensation of bubbling of air from the vulva; have had more or less for three or four days.

7 A.M. Pressure between shoulder-blades when stooping, when sitting up the pressure but little relieved; shooting and dull pains over the left ear, passing to forehead and chest; sternal side of right mammæ sore to touch; a deep stitch of pain by the left anterior superior spine of ilium, relieved by eructations of wind.

10 P.M. Stitches of pain keep coming in hypogastric region, sometimes relieved by eructations of wind.

10.15 P.M. Took medicine; almost immediately a feeling of nausea, with burning in fauces and anterior portion of tongue; in five minutes stitches of pain around the umbilicus. I keep making the wrong letter or word.

10.30. Continued swelling of left lower jaw and upper lip.

November 16th. Sleep fitful, with frequent turning over; woke up with dull throbbing in head and swelling of both cheeks; tongue coated white, fissured along the centre of the posterior parts; half of gums white.

7 A.M. Took medicine.

8.45 A.M. Raising of bilious fluid half hour after breakfast; fulness in head gone.

10 A M. Soreness in left wrist.

11. Took medicine; dull pressure in forehead returned.

11.30. Forehead hot, hands cold.

12 M. Arms feel unusually tired.

3 P.M. Took medicine; no dull feeling in forehead.

9 P.M. Took medicine; in a few minutes a chill passed down over my back; then a pain, at first sharp, then dull, at the anterior superior spine of ilium, lasting some time.

10.10. Stitches in lower part of abdomen, relieved for the time by eructations; lameness of wrists, swelling of hands and veins of same, palms hot and dry; feeling of lame tiredness, especially in left hand; great heat, with dry burning in vulva, especially around the vagina, passing off with moisture.

November 17th. Woke from dreams of passing through dark places; throbbing in forehead; tongue white.

7 A M. Took medicine; throbbing in forehead gone.

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11 A.M. Took medicine; dull throbbing in forehead came on; leucorrhœa less than yesterday, what was present was near the anterior commissure.

11 P.M. Took medicine; was unusually restless, the first part of the night waking up with a start, and heart quickly beating.

November 18*th.* 7 A.M. Took medicine.

9 A.M. Dull oppression around the heart and chest; relieved momentarily by a deep inspiration; pulse 72.

10.15 A.M. Hands hot and dry; no throbbing in forehead; swelling of veins on left hand, with a numb feeling about the wrist, above it, part way up the arm.

5 P.M. Inflammation in vulva, with burning and itching of vaginal opening and posterior commissure as from an acrid discharge, but there was very little discharge.

7 P.M. Burning in sphincter vaginæ continued, but not so bad; the burning seems intermittent.

8.30 P.M. Took medicine; burning still around the vagina, extending to the perinæum; bowels as usual; bearing-down pains from left sacro-iliac synchondrosis, sometimes towards the umbilicus, from there to vulva.

10.50 P.M. Burning of sphincter vaginæ gone, leaving a moisture on the parts.

November 19*th.* After being up half an hour my forehead began its dull pressure, with eructations of bilious-tasting wind; dull ache in abdomen and small of the back and right hip.

8 A.M. Took medicine; the dull feeling in various parts have passed away.

4 P.M. Took medicine.

8 P.M. After a walk the burning around the vagina with slight leucorrhœa, and the dull bearing in small of back, returned, with the dull throbbing in forehead.

8.45 P.M. Took the last of the medicine.

November 20*th.* Woke up from dreams of my lessons, with throbbing in forehead.

8 A.M. Hands hot and dry, with a few spots like flea-bites on hands; slight watery leucorrhœa; dull pressure in back and hips; tired feeling all over; after dinner a throbbing, which seemed to extend from stomach to forehead.

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6 P.M. Quivering of right eyelid spasmodically; tired feeling between shoulders.

November 24th. Can think and reason as usual, but the tired feeling all over still remains, and wrists seem sore and tired all the time, and every little walk brings on burning around sphincter vaginæ. In this proving have not taken any coffee, tea, or spices.

November 26th. Menstruation delayed two days, then came profusely; soreness and lameness in wrists passing off; also the burning and other disagreeable symptoms.

Proving by Miss M. L. S.

October 28th. Took first dose at 10 A.M.; constant feeling of chilliness when in the open air; head commenced to ache about 12 M.; a frontal oppressed feeling which steadily increased through the P.M.; at 6 P.M. I was troubled with nausea, and had no appetite for supper; some relief obtained from lying down; at 6 o'clock the scalp felt contracted and seemed to draw upon the upper lids.

October 29th. Omitted the remedy.

October 30th. Took at 7 A.M and 3 P.M.; I noticed an unsteady, dizzy feeling when walking upon the street just after dinner.

October 31st. Took dose 7 A.M., 1 P.M., and 6 P.M.; no symptoms.

November 1st. Dose at 6.30 A.M., 1.30 P.M., 7.30 P.M., 9 P.M.; had cutting colicky pains through lower part of abdomen upon going to bed, which subsided as I fell asleep.

November 2d. Woke with pains in the abdomen, which soon left; took a dose at 9 A.M.

November 3d. Woke with itching of right forearm; scratching brought a cluster of blotches to the surface, which resembled "urticaria;" feeling of languor over the whole body; took dose at 7 A.M. and at 2 P.M., which finished the remedy; no further symptoms perceived. I feel that the headache of October 28th was caused by an article of food rather than by the remedy. I have had an eruption on my face, mostly confined to the chin, for several years; it commences in little hard points, usually the

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seat of comedones; the points itch and give more or less pain; they fester, the comedones are discharged, after which they heal readily and the skin scales off; slightly brown discolorations are left upon the face; I have slight catarrhal inflammation of mucous membrane of fossæ narium every winter, and was troubled at the time I commenced to use the remedy. Both troubles had been somewhat aggravated by the remedy, I think.

Began to take the remedy October 30th; continued it for six days, taking a dose every four hours during the day as far as was possible; increased the dose from 1 to 7 grains; could perceive no effect whatever.

Proving by Mrs. C. D. R.

Age 37; usually well; lungs not strong, tendency to congestion on taking cold; menses regular; family consumptive; dose 1 grain, Sunday, *November* 5th, 7 P.M.

8 P.M. Slight dizziness on attempting to walk; distended feeling in abdomen.

8.30 P.M. Lying down increased circulation; palpitation of heart, followed by chills from feet upwards; chills followed by drowsiness; then by chill again.

12 o'clock, *midnight.* Commenced menstruating (menses had been delayed for a few days); awoke during night with sensation of fear; heart *seemed* to stop beating; difficult breathing.

November 6th, 7 A.M. 1 *grain* dose.

9 A.M. Frontal headache, with languor; chills from feet upwards over body; pulse 100; respiration 26; *lying down*, respiration increased, 32; slight cough; chill, and pressure in abdomen.

11 A.M. 1 *grain.*

At 12 o'clock, pulse 90; *drowsy;* after lying down, a pleasant sleep; on waking, a clearness of thought and vision; pulse 80; respiration 23.

3 P.M. A burning sensation across lungs; also depression.

4 P.M. Expectoration frothy, tinged with blood; pain across lungs, which continued for some time, with hoarseness.

Night of 7th. Again awakened by frightful dreams; oppressed feeling of lungs; the oppressed feeling and pain of lungs, with slight cough and hoarseness, continued for a number of days.

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Proving by Miss E. E. S.

Unmarried; age, 23 years; blonde; rheumatic tendency in marked degree, inherited; considerable neuralgic pain during menstruation, with rather profuse flow, but very regular; predisposition to most kinds of headache; nerves always *perfectly* steady; slight tendency to catarrh; digestion good and bowels regular; slight eruption on chin and nose; at times hangnails; at present time have a cold of two or three days' standing.

Coryza, hoarseness, and cough, with tickling, extending into lesser bronchi and under sternum; otherwise health very good, evenly so.

October 26th, 4.30 P.M. Dose 1 grain.

At 5 P.M., vertigo.

At 5.30 P.M., while walking, sharp pain below scapulæ, more on right side, extending down to crest of ilium; also pain in right groin; at same time a sharp pain, first in right eyeball, then left eyeball, then both; also over both eyes.

4.30 to 6 P.M. Chills across back, and down legs and arms.

8 P.M. Dose 2 grains; during evening a lame, stiff feeling of neck along anterior border of trapezius muscle.

10 P.M. Sharp, cutting pain on left parietal region; sore feeling continues in right ear; cold seems to have grown worse; cough drier, and with pain in lower part of bowels while coughing.

October 28th. During the night, discharge from the nose of thick yellow mucus; restlessness.

8 A.M. Dose 2 grains.

8.30 A.M. Feet and ankles cold, as if from cold water.

7 P.M. Palpitation of heart quite strong.

October 27th, 7 A.M. 1-grain dose.

At 8 A.M., after breakfast, hot head, with cold feet and ankles, as though in cold water.

9 30 A.M. Palpitation of heart and frontal headache, with heaviness of head, as though I could not hold it up.

10.15 A.M. Pain in right meatus auditorius externus, extending into internal ear.

11 A.M. Dose 1 grain; no symptoms, but drowsiness.

4 P.M. Dose 1 grain.

4.30 P.M. Pain through right lung; pain in lower part of chest,

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near and a little to left of sternum, with darting pain through temples; hot head and slight frontal headache; after dinner, heavy frontal headache, with drowsiness.

3 P.M. Dose, 2 grains.

Heavy feeling of head, as though couldn't hold it up, with occasional pain in left side of head and marked feeling of band from one temple to the other, just above eyebrows, as though skin was drawn tight; not relieved by cold air.

4 P.M. Sharp pains in lower pelvic region for some minutes.

10 P.M. Pain in sacral region and also in hypogastric; pain down right leg.

October 29th. Dose, 11 A.M.; no symptoms but unusual irritability.

October 30th. Took none.

October 31st. 7 A.M. Dose, 5 grains.

While taking this drug in small quantities, a sharp pain which I have had a good deal in region of heart has almost entirely disappeared, but at 8 A.M. it came on very severely, extending down arm into fingers and making them almost numb.

6 P.M. Pain in left axilla and down left arm continued all day; very severe in afternoon, more so on raising arm and on breathing; better for a short time after supper.

9.30 P.M. Pain and dead feeling from hip to just below knee in right leg.

November 1st. 2.30 P.M. Dose, 7 grains.

5 P.M. Sharp pain in left axilla and down arm, the same as yesterday; all the afternoon heavy frontal headache, with heaviness of lids.

8 P.M. A continued burning feeling under right breast; sharp pain across epigastrium.

November 2d. Very restless night, with tired feeling in morning and pains in various parts.

8 A.M. Dose, 6 grains.

9 A.M. Heavy frontal headache, more in right eye and in internal ear, with sore feeling and pain in right side of throat.

11 A.M. Sharp pain in right eye continues.

12 M. Pain around abdomen below umbilicus and across epigastrium: eyes and lids so heavy can hardly keep them open.

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4.30 P.M. Dose, 5 grains; constricted feeling of chest, with pains all over it, especially under sternum.

8.30 P.M. Empty eructation; eructations of bitter liquid.

10 P.M. Nausea all the evening, with vomiting of bitter undigested food, with smarting in throat; pain and burning in lower lumbar region.

November 3d. None of drug taken.

12 M. Nausea, with queer feeling in head; if close eyes seem as if room were swimming; shuddering sensation; frontal headache increases.

8 P.M. Nausea all day, with vomiting in evening of bitter fluid matter.

Menses appeared three days too soon, in early morning; about 11 A.M. the pain was unbearable, in back mostly, and also in abdomen and down the legs, especially the right leg; it seemed to be membranous dysmenorrhœa, as pieces of membrane were found; flow was rather less than more than usual; extremely nervous; have been very restless every night since taking the drug, sometimes with chills during the night; have been so cross and irritable my friends could hardly live with me, and it made me feel very uncomfortable.

There has been an eruption all over my face, and a stinging itching in many parts of my body, as if an insect were stinging; there has been swelling and soreness of glands of the neck, more or less, all the time.

Proving by C. I. L.

Age, 22 years.

November 15th, 1876. At 7 o'clock A.M. took 1 grain; repeated the dose every four hours through the day, gradually increasing it until 9 o'clock P.M., when I took 5 grains and immediately retired; sleep was undisturbed until 12 o'clock, after which it was accompanied with troublesome dreams; would wake every few minutes, becoming very restless, rolling from side to side; was *very cold;* had dull, aching pain in the region of the lumbar vertebræ; symptoms continued till morning and disappeared on rising.

November 16th. At 7 o'clock took a dose; at 8.30 o'clock

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A.M. had sensation of weakness in stomach, which extended up through chest; worse when standing; relieved by sitting; repeated the dose every four hours through the day; at 8 o'clock had sensation of fulness and pressure in the forehead, as from expansion of the brain; this same sensation of the head was experienced on the previous evening; bowels constipated.

November 17*th.* At 7 o'clock took a dose; repeated it at 11 and 4 o'clock; at 6 P.M. was *cold* (sat up with a fellow-student who was sick); the coldness continued until 12 o'clock; had to put on extra clothing and then could not get warm, and was *obliged to sit beside the fire.*

November 18*th.* At 7 o'clock A.M. took about 10 grains; at 11 o'clock A.M. *cold; could feel distinctly* the *pulsation of the heart;* sensation as though the blood rose from the heart up through the chest to the brain, causing *pressure* in the *head* from within outward, accompanied by *hot, flushed face;* at 11 o'clock took the final dose; at 12 o'clock M. had the same sensation that was experienced at the previous hour; at 4 o'clock P.M. sharp aching pain in lumbar region; bowels still constipated.

Proving by Mr. R. R. T.

Aged 28; bilious temperament; health good, never have had any severe sickness; pulse for three days before taking the drug ranged from 78 to 80, and did not change from that during time of proving.

October 30*th.* Took 2 grains three times; no effect.

October 31*st.* Took 2 grains four times; no effect.

November 1*st.* Took 3 grains three times; slight pressing pain in the region of right parietal eminence, not relieved by any means, and continued all day.

November 2*d.* Took 3 grains four times; pain in right parietal eminence, coming on soon after breakfast and about noon; starts on the left side also; continues until evening.

November 3*d.* Remedy not taken; pain in the head still continues, more especially on the right side; pressing pain along the spines of both scapulæ, started about 9 o'clock, got gradually worse during the day, more especially when walking; feels a little better by sitting down.

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November 4th. Remedy not taken; pain in the shoulders very severe, as of a great weight; can scarcely bear the weight of clothes, although they are not sore to touch; the pain is relieved by sitting, but does not entirely disappear; very slight headache at vertex.

November 5th. Pain in shoulder still continues, but not so severe as yesterday; it is a dull, steady ache; no headache.

November 6th. Feeling of fulness between the parietal eminences and at the vertex; pain about the shoulders very slight.

November 7th. Slight fulness at vertex, pressing outwards; took 5 grains of remedy three times; tympanitic distension of abdomen, with loud rumbling.

November 8th. Took 5 grains of the remedy three times; tympanitic distension painful; emissions of flatus before and with stool; dull headache just in front of parietal eminences.

November 9th. Took 5 grains three times; flatulence not so great as yesterday; no headache, but feel rather indisposed to study or exert myself.

November 10th. Took 10 grains three times; no effect.

November 11th. Took 10 grains twice; no effect.

November 12th. Took 10 grains twice; headache between the parietal eminences; dull pain, with pressure, with fulness; raw feeling in posterior nares; salivary glands secrete profusely; tongue coated dirty color.

November 13th. Took 10 grains twice; headache at vertex; tongue coated, and bad taste in mouth in the morning; profuse salivation; soreness of posterior nares, with secretion of mucus, also slight coryza during the day, none in the evening; headache full and dull, continuing all day to 7 P.M.

November 14th. Headache at the vertex and dull ache; tongue coated dirty color; profuse salivation; catarrh of posterior nares, with raw feeling and profuse secretion of clear mucus; remedy not taken.

November 15th. Headache at vertex and on the right side; also pain in right shoulder and right groin.

November 16th. Headache on right side and at vertex, fulness and pressure.

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Proving by Mrs. H. H. C.

Commenced taking No. 1 according to directions; continued two weeks, during which time realized less physical disturbance than was accustomed to.

For last eight or ten years have never been free from more or less pain (excepting sometimes for a day or two), the principal disturbance having been in the hypogastric region; a sense of heat and pressure, occasioned probably by anteversion of uterus.

This state was brought on by great and protracted physical and mental strain, and I considered it owing to the generally relaxed condition of the system, and was so accustomed to it that I hardly realized it was pathological, until, while taking the medicine, I was surprised at *my very unusual state of health*, finding my only symptoms to consist of a remarkable freedom from pain or discomfort; but immediately after taking the medicine, the pulse would diminish ten or fifteen beats in a minute, and in fifteen or twenty minutes there would be a great rush of blood to head, giving my face the color of a boiled lobster.

I performed the same, or a greater amount of work, and where previously I had felt "tired to death," I was only wholesomely tired; but when I increased the dose to 8, and after to 10 grains, each dose gave me a severe headache, which appeared first in the left temple, and then spread across the forehead, and finally it became a continuous headache (frontal), and I gave up taking the medicine, feeling really too ill to attend to my work. After a few days head got better.

Proving by Charles Leeds.

Dark complexion; black hair; have been subject to bilious sick headaches, otherwise my health is good.

October 30th, 1876. 8 A.M. Dose 1 grain; no effects.

12 M. Dose 2 grains; at 12.45 P.M. uneasy feeling in region of heart.

October 31st. 7 A.M. Dose 1 grain. At 11 o'clock severe pain on right side of head—parietal region—passing at intervals over the top of head to left parietal region, and down to teeth of upper jaw and to the orbits.

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12 M. Headache continues. It is a pressing pain, and is increased when entering a warm room.

1.45 P.M. Chill over left shoulder-blade, followed by a sensation of pain in cervical muscles; nausea after eating; headache, extending from the orbits over the head to occiput, with a tendency to spread over the parietal region of either side.

2 P.M. Great heat in body; hands hot, with palms very moist; breath foul.

3 P.M. Headache has increased to an almost unbearable degree. I have been listening to lectures all day.

3.50 P.M. Increase of saliva.

4.10 P.M. Bloody taste in mouth.

4.50 P.M. Burning sensation at pit of stomach, with burning and dry sensation at back of mouth; headache extends from occiput around right parietal region to right orbit.

6.30 P.M. For the past three hours have had a sore or bruised pain in right arm, extending from the shoulder along back part of arm to elbow; pain seems to be in the muscles, but extending to the bone. While walking, every step seemed to produce a jar of the head, causing the pain to move backward and forward from orbit to occiput; pain extends down the cervical muscles of the right side.

7 P.M. Pain relieved by binding handkerchief around head.

11 P.M. Headache still continues in a milder form; not much thirst during day; urine much below usual quantity. I have noticed during the day and evening that heat and motion increased the symptoms.

November 1st. 6 A.M. Aroused suddenly from sleep with severe pain in bowels, and obliged to go to stool. The discharge was copious and of a liquid character.

I gave 1 grain dose to a student suffering with a severe headache from orbit to occiput, appearing like rush of blood, or pressure, as he expressed it; he was entirely relieved in half an hour.

It has been my custom to take a cup of coffee at breakfast and a cup of tea at supper, but for the past three days I have not done so; with this exception, I have had my usual diet.

April 24th, 1877. 4.58 P.M. Dose 1 grain; no effect.

8.08 P.M. Dose 1 grain; no effect.

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10.50 P.M. Dose 2 grains; no effect.

April 25th. 7.30 A.M. Dose 2 grains.

At 9.10, sense of fulness in head.

11.15 A.M. Dose 2 grains.

At 12.30, head feels very much enlarged, with an involuntary swaying forward and backward; somewhat light-headed.

6 P.M. Cold sensation of skin of back, with rheumatic pain under right shoulder-blade, and extending down right arm to fingers.

6.30. Stitches in region of kidneys.

April 26th. 7 A.M. Urine decreased.

7.35. Dose 1 grain; pulse 65.

At 7.30, pulse increased to 80. For two days previous to taking this remedy I have been troubled with a slight morning and evening diarrhœa; discharge copious, liquid. This morning (26th), after taking remedy for a period of about thirty-six hours, I am unable to have an operation of the bowels, after a strong effort to do so.

11.30 A.M. Contraction and burning at anus.

Proving by Mrs. J. H. Marshall.

Aged 37; tall, thin, dark-complexioned, predisposed to catarrhal affections of the nares, larynx, bronchi, and vagina. My father died of bronchial consumption; also one brother. I am very sensitive to damp or very cold weather; have a cough the greater part of the time; never had a severe illness, except laryngitis once, and several attacks of bronchitis; suffer constantly from indigestion in some form or other; usually am distressed after eating and faint before, with belching of wind; natural disposition quick, lively, hopeful, decided; capable of enduring a great amount of mental and physical labor; very sensitive to the action of remedies; natural habit constipated.

Took first dose (?) October 30th, 7.30 A.M.; in a few moments experienced a faint feeling extending from the stomach to the pharynx; half an hour later, dryness of the mouth and fauces, followed by a small diarrhœic stool an hour later.

Second dose 3 P.M. Warmth in the stomach and abdomen; belching of wind and faint feeling; half an hour after tingling and smarting in the œsophagus; have sensation of heat that be-

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gins in the abdomen and extends to the stomach, causing a sense of emptiness, with belching of wind.

7 P.M. A small diarrhœic stool; great sleepiness, yawning, cannot keep the eyes open, very unusual; naturally sleepless; belching of food.

Second day, October 31st. 3d dose, 7 A.M. No immediate effect; later, pains in the abdomen, hot shooting pains, with passage of flatus.

3.30 P.M. Slight diarrhœa; stool followed by pain in the abdomen; great dulness of the mind; eyelids seem too weak to stay open; sleepiness; dark rings under the eyes; symptoms of catarrhal cold.

6 P.M. Dull pain in the left orbit; grumbling toothache in a carious tooth, which has not ached for six months; pain starts from the lower jaw, runs up the face to the ear and eye, and above the orbit; sense of enlargement of the teeth, all the teeth on the left side ache; face and ear feel cold to the touch; upper lip swollen, face red, eyes glassy, frontal headache.

7.15. November 1st. Suspended the proving. Feel better this morning, except some smarting of the eyes, with redness of the edges of the lids; tongue yellow-coated in the middle; insipid taste; hoarseness and catarrhal symptoms; discharge of a straw-colored thin mucus from the nose; lips dry without thirst, in fact, the usual symptoms of a catarrhal cold; head clear.

5 P.M. A distinct shudder up the side of the face; neuralgic pain running from the ear to the eye, nose, temple, teeth, comes on at 7 P.M., and lasts until 10; very sleepy on retiring; rest disturbed; wakes to find arms thrown over the head.

Third day. First dose 7 A.M. At 10 a dull frontal headache; grumbling pain in the teeth of the left side, also faceache; headache, with chilly feeling of the whole body, with some slight fever; urine dark and scanty.

11.30. Flushes of heat, followed by hot perspiration all over the body; headache and catarrhal symptoms; perspiration along the whole length of the spinal column.

Evening. Omitted the dose; had darting pain in the left side of the face, running from the ear to the lower and upper teeth.

Fourth day. Suspended the remedy on account of headache;

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hoarseness and continuous neuralgia; urine dark, scanty, smarting in the urethra.

10 to 12. Sweat all over the body, followed by dull headache, with loss of memory; cannot concentrate my ideas; slowness of thought.

2 P.M. Neuralgia following the course of the fifth nerve, left side of the face; constipated stool; tearing, grinding, or darting pain in the left side of the face; most unbearable pain, cannot sit or lie still, lasts from 4 to 6 P.M.; cold water gives some relief; chloroform and olive oil dropped into the ear eased the pain; copious discharge of urine; stiffness and swelling of the face and jaws; opened the mouth with difficulty.

From 6 to 4. Constant belching of wind, with passage of flatus, and sharp cutting pain through the abdomen.

11 P.M. Took another dose; sleep quiet; woke at 5.50 with a tired, exhausted feeling; darting, wandering pains through the abdomen, especially on the right side; soreness of the face and teeth, with inability to open the mouth more than half an inch.

Fifth day. Pain along the course of the fifth nerve as before, with soreness.

At 8 A.M., diarrhœic stool, with sharp pain.

11 to 12. Neuralgia of a most exasperating character, followed by extreme exhaustion, the pain leaving suddenly after dinner; had perspiration from 2 to 3, during which all the pains disappeared.

Evening. Sore grinding pain in the back double teeth, both upper and lower jaw; face sore to the touch, stiff and painful; relieved somewhat by external application of chloroform and oil; throat sore on swallowing; catarrhal symptoms gone.

Sixth day. No medicine to-day. Soreness of the teeth and face; cannot open the mouth; teeth feel too large; face sore to the touch; belching of wind, sour or tasting of food eaten; sense of fulness of the stomach and abdomen; no desire for food.

10 P.M. Passage of flatus smelling like rotten eggs.

2 A.M. Wakened from sleep by an urgent desire to go to stool; much pain in the abdomen, beginning at the umbilicus; pain and burning in the rectum after stool; stool large, gushy, and followed by great weakness and chilliness; pain returned by the

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warmth of the bed. At 4, wakened again; another stool, pain and tenesmus very *severe;* chilly after stool, with hot pain in the abdomen and rectum.

6 A.M. Another stool; pain increased in severity; throbbing in the rectum; cannot lie still from pain; skin dry and hot; lips dry without thirst; took a dose of Ars. 30; pain in the rectum somewhat relieved.

11 to 12. Two more stools, pain as before, but subsides more readily. Another dose of Ars., and went to bed; feel very thirsty.

At 1 P.M. had a cup of tea; skin moist soon after, and pain relieved. Later, hot perspiration over the abdomen, with sense of heat down the spine.

Evening. Feel very well, only weak. Took no medicine for four days, then made the dose 2 grains; a few minutes after had a burning in the throat from the pharynx to the œsophagus; disturbed feeling at the pit of the stomach, soon followed by nausea and gulping of wind, with a sense of faintness at the stomach; yawning, sleepy feeling. Repeated the dose the next day and the day following, with no other result than the feeling of disturbed digestion described above. Curative symptom: the catarrhal leucorrhœa has nearly disappeared.

Proving by Miss S. W.

Age 31; general health good, with these exceptions:

Inherited headache; dull in forehead nearly every day, coming on at 9 or 10 A.M., and lasting till after dinner; followed by drowsiness for two or three hours; feeling remarkably well in the evening and sleeping well.

Menstruation *very* regular as to time; normal in quantity and quality, but accompanied with severe labor-like pains, and usually accompanied or followed by very severe throbbing headache, commencing in forehead and extending to the occiput.

Took first dose October 26th, at 12 M., head feeling nicely at the time; in half an hour the frontal bone felt as in a vice; in forty minutes felt a sticking pain in œsophagus as if an apple-core had lodged there; pain extending afterward through to left scapula, and passing off in ten or fifteen minutes.

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Second dose, 4 P.M. Went out for a walk; had rheumatic pains in left groin, lower leg, and right side of chest; pressing pain in stomach, with constant eructations; the rheumatic pains were relieved for a short time on coming into the warm room; eructations continuing.

Soon sharp rheumatic pains appeared in left ankle-joint and in metatarsal bones; a return of pain in groin, with pain and pressure in left side of abdomen, with general chilliness continuing all the evening.

Second day. Took 1-grain dose at 7 A.M.; on going into the air had sharp rambling rheumatic pains on left side; indoors had dull frontal headache and intense sleepiness; impossible to keep awake; slept soundly from 11 to 11.45 A.M.

Took a 2-grain powder at 12, an hour before dinner; on leaving the table the same sense of constriction of œsophagus, with pressure in stomach and empty eructations; a dull rheumatic pain, the size of an egg, to the right of sternum; same intense sleepiness, which disappeared upon going into the air, at 3.30 P.M., but was superseded by dull rheumatic pain in lumbar and sacral regions, extending from thence down the leg to the knee; utter inability to think or to comprehend anything read, but it did not worry me, for I felt everything would come out right.

Another 2-grain powder at 4 P.M.

At 4.35 chilliness and pain in left groin as from a strain; while out in the air dull pain in chest, about midway between lower part of sternum and the shoulder.

At 7.15 P.M., a feeling while sitting as if a nail were being driven into inner side of right tibia at the point of junction of lower with middle third, followed by an intensely nervous feeling in both limbs, making it impossible to sit still or to go to sleep at bedtime; relieved by a warm bath.

Took 2 grains at 9.30; slept well until 2 A.M.; awoke with hard chill, chiefly along the spine, which continued till 6 A.M., refusing to be relieved by any amount of additional bedclothes.

Bad taste in the mouth in the A.M.; tongue and buccal cavity covered with sticky, yellow coating.

Third day. Took a 3-grain dose at 7 A.M.; soon followed by

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a pricking pain in right eyeball; inability to put my mind on any subject, or to comprehend anything read; stiffness in eyelids; great heaviness of both eyes; smarting pain in mouth, posterior nares, fauces, and pharynx, as if scalded with hot tea; at 9 o'clock a hungry feeling that became unbearable by 11; took a lunch, and in ten minutes felt as if I could not wait until dinner-time.

Another 3-grain dose at 12 M.; ate a hearty dinner, and in half an hour the same hungry feeling, with great depression of spirits; the terrible hunger, burning and smarting in œsophagus and stomach, brought on complete nervous prostration with partial paralysis of throat, the nervousness being almost unbearable.

On getting over the nervous attack my friends discovered a very fine bright-red rash on face, neck and chest; seemed to be just under the skin, and the skin when pressed upon remained red for some time; great discouragement and depression of spirits the rest of the day; and here ended and ends my proving, but not so with symptoms.

Rheumatic pains in limbs and chest, with tendency to dry cough continued for a week; a *violent coryza* ensued, not, as I believe, from exposure to cold, but from irritation of mucous membrane from the drug; the headaches have disappeared, also the sleepiness, for the last three or four days.

The face throughout was pale, pinched and *worn-looking;* the pulse irregular; menses two days late, flow scanty and pale.

The irritation of œsophagus and stomach continued three or four days, leaving a slight tendency to hæmorrhoids and smarting of the vaginal canal and vulva.

My natural disposition is to be worried and anxious; on small doses there was an entire absence of that, while on large doses it was very much increased.

I am fair-complexioned, have blue eyes and light-brown hair.

Proving by W. W. G.

October 26th. 2 P.M. Took what I considered to be about a grain, but obtained no symptoms.

October 26th. 7 P.M. Took 1 grain; no symptoms.

October 27th. 7.30 A.M. Took 2 grains.

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At 9 A.M., there was a dull grinding ache through the eyes and whole frontal region, with pain in the nasal bones. This pain in the nasal bones I don't know how to describe. It might perhaps be best described by calling it a pungent pain. I should think it might be similar to that experienced by persons who have catarrh badly.

With the above there was excessive dryness of the soft palate; flashes of heat, followed by chills, but no sweat.

October 27th. 11.30. Took 2 grains; continued and increased frontal, orbital and nasal ache, and slight stuffed feeling in the nose.

October 27th. 3 P.M. Took 2 grains; in twenty minutes there commenced sharp pangs through the orbits and eyeballs, coming on first in the left side, and ending in a dull ache through both orbits and whole frontal region, with slight pain also in the nasal bones; the great dryness of the soft palate has been continuous since it first came on; slight sweating of the feet, with afterward cold feet.

October 27th. 7.30 P.M. Took 4 grains.

At 8 P.M., the pangs through eyeballs and temples became very severe; there was a certain sluggishness and languor of thought, so that I could not pursue my studies. The headache became so severe that I took a dose of Glonoin, and in one-half hour the headache was gone, and I obtained no more symptoms from my remedy.

October 30th. 2 P.M. Took 4 grains; in ten minutes sharp neuralgic pains through eyes, orbits and os frontis.

At 3 P.M., dryness as before of the soft palate, but no thirst; also a feeling as of clots of mucus sticking to the back part of the throat, but no expectoration.

At 3.30 the headache became remittent; the nostrils now became sore, particularly the left, which, upon examination, I found fissured in several places, the cracks or fissures afterwards filling with hard crusts, which are difficult to detach, and when removed leave sore, sensitive, deep fissures, which do not bleed. (These fissures of the nostril, at the time of this writing, November 5th, still remain, proving very troublesome.)

October 31st. 11.30 A.M. Took 10 grains; terrible frontal, or-

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bital and nasal pains; urging to urinate often, but no perceptible increase in quantity during the day, there being considerably less passed at each micturition than usual. A partial analysis of the urine showed that it contained considerable mucus, and gave a slight brown color upon the addition of caustic potash, caused either by the presence of mucus or blood.

October 31*st.* 3 P.M. Took 10 grains; the pains about the os frontis increased, with the addition of pains, sharp and piercing, in the right ear; the headache now spread to the vertex, accompanied by restlessness, as if I could not sit still, but must be moving about; faint gone feeling at the stomach, with offensive breath; dryness of the soft palate, with slight sticking pains in left hypochondrium. The symptoms obtained from this remedy seemed increased from heat, especially the headache, and relieved in cool, fresh air; the headaches have come on every morning since finishing the proving, and are aggravated by mental work and relieved by exercise; swelling of tonsils, especially the left, which is so enlarged as to bunch out externally, and is very tender to touch, and inflamed internally.

I am a student at the Boston University School of Medicine; 23 years of age; light hair and eyes; five feet eleven inches high, and enjoy robust health; have been married three years. I have proved one or two remedies previously, and have noticed that I am easily influenced by drugs, but the effects are not very long lasting.

My father is 75 years of age, strong and healthy, still attending to his business, that of a lawyer.

My mother is 53 years of age, and has hereditary heart disease.

I have one brother and two sisters, all of whom are troubled with catarrh, so that there are undoubtedly traces of scrofula in the family.

Proving by H. H. C.

Previous to beginning the proving my health was unusually good, with the exception of a tired feeling on rising, which became a sort of cloudy headache before 9 A.M.; after that time it generally disappeared. The functions were all in good order;

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the urine was normal in quantity and color, and a specimen of *urina sanguinis* on testing displayed strong acidity; specific gravity I was unable to ascertain.

October 29th, 1876. Felt well on rising, at about 7 A.M.; pulse 60; at 9 o'clock 80; hands were cool and the skin generally moderately warm; head in normal condition.

9.05 A.M. Took 1 grain in water.

9.08. Feeling of great anxiety, as though something were going to happen; this feeling lasted some minutes and was not easily gotten rid of; accompanying this were quick, superficial breathing, quick action of the heart and a shivering dread; pulse irregular, first full, then weak, but not very rapid.

9.14. Slight pain of neuralgic character in the right temporal bone at the roots of the zygoma; the pain was of a shooting nature, intermittent and lasting only a minute or two.

9.17. Cramp and feeling as of a lump on the right side of the thorax, opposite the middle of the sternum, on sitting down, better on motion.

9.30. Blunt pressure as of a finger in front of liver; very slight.

Second dose. After returning from church and having a good appetite from walking, I took 1 grain (a large one) in water; ate dinner with no diminution of appetite; half an hour afterwards felt no inconvenience.

Third dose, 4.28 P.M. Took about 1½ grain.

4.34. Pricking pain as of a needle being forced outward, beneath the centre of the right eye; this came as a single shock.

4.44. Stitching pain and cramp between fifth and seventh ribs on the right side.

4.48. The stitching pain became severer; during this time I was engaged in writing; walking across the floor relieved the pain.

4.57. Frontal headache, left side, with more heat than pain, extending into the upper part of the orbit and along the parietal bone to the ear; came on while lying down for a moment; continued after getting up.

5. General heat of the forehead and scalp.

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October 30th. Slept badly last night; had dreams of a very disturbing nature.

Fourth dose. At 4.10 P.M., after returning from lectures tired, but otherwise well, took 2 grains in water.

4.15. Cramp in the walls of the thorax as before; pulse varying from full and frequent to soft and slow; general shooting rheumatic pains in upper and lower limbs of the right side, of long duration.

4.35. Increased lameness in right elbow-joint.

6.45. Crampy rheumatic pains in the upper part of the chest, right side, extending to sternum; very severe.

October 31st. Fifth dose, 6.55 A.M. Took 3 grains; almost immediately pain in abdomen on the inside of the left iliac crest, below Poupart's ligament, as of a pressing lump.

7. Tearing, shooting, griping pains in umbilical and hypogastric region, with cramp in the walls of right side of thorax as before; went to walk for about fifteen minutes, during which time the abdominal pains ceased; the pressing and contraction of the right chest continued, and there was burning beneath the middle of the sternum.

Sixth dose. 4.50 P.M. Took 5 grains.

4.58. Dull oppression on top of the head, sense of weight, heat on top of head and in both temples.

5. Sense of weight in hypogastrium; eructation; constriction in the thorax.

5.12. Pricking, sharp pains in intercostal space (about the fourth), left side; lameness of right elbow-joint; shooting burning pain not aggravated by flexion or extension.

5.10. Burning pain as of a hot needle thrust through the thorax, about the third left rib.

5.22. Rheumatism in left knee, not very sharp, but giving the knee a weak feeling.

5.45. Pressing pain inwards on the middle of the sternum, the other chest symptoms disappearing meanwhile; the pain was quite severe and seemed in the bone; the chest symptoms resemble the pains following a deep exhausting cough; a general lameness of the thorax.

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9.55. Piercing frontal headache, left side (doubtful as a symptom).

November 1*st.* Seventh dose, 6.45 A.M. Took 7 grains; went to walk immediately; felt no effect beyond a few empty eructations.

3.30 P.M. There was a pain resembling the violent sting of an insect on the left side of forehead, and a swelling such as would succeed a sting followed; there was a hard red swelling, considerable pain and much itching; the pain disappeared shortly, but the swelling remained for two hours or more; a little later a similar swelling appeared on the left leg, just above the knee.

Eighth dose. 3.58 P.M. Took 8 grains, having at the time a dull sort of headache.

4.20. An itching swelling appeared on the left elbow, resembling those before mentioned.

4.30. Rheumatic twinges in the muscles of the left leg (calf); the symptoms following were intermittent, and consisted of rheumatic twinges in the intercostal muscles, and some pain in the left hypochondriac and umbilical regions, with sense of weight in the hypogastrium.

At 5.30, and later, there were rheumatic pains in the arms, on carrying an umbrella and in flexing the arms; during the effects of this last dose, a thundershower took place.

November 2*d.* Ninth dose, 6.45 A.M. Took 10 grains; went to walk; during the next half hour some of the former symptoms were repeated, such as constriction of chest, sticking pain at pylorus and weight in hypogastrium.

7.55. Constricting pain in the thorax, right side at fourth rib.

10 A.M. General feeling of headache; slight nausea and drowsiness (a very warm day).

11. On rising to leave the lecture-room, became violently worse; feeling of nausea, giddiness and anxiety; vision became uncertain and I was obliged to go into open air; nausea increased; pain deepseated, dull and oppressive; extended over the top of the head, but worst in the frontal region; on getting on a car, felt as if I should fall; disposition to vomit, although there was no feeling of anything on the stomach; nausea disappeared in half an hour, but the headache continued for two or three hours, becoming

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gradually duller; as to the fact of this being a symptom, I feel quite certain, as the headache disappeared sooner than my headaches generally do, and left none of the usual effects behind; and also in spite of the nausea, I was able to eat a good dinner and supper and experienced no bad result, as I certainly should have otherwise.

On getting home, passed about a pint of pale yellow urine, not very translucent, and on testing it proved so nearly neutral that I was unable to tell which way it inclined; on heating in a test-tube, it turned the color of water with a very little milk added; this was entirely dispelled by a few drops of nitric acid, it then becoming the color of normal urine; testing for albumen discovered none.

In addition to the foregoing symptoms, I should state that on the first three mornings my head was remarkably clear between 7 and 9 o'clock, in plain contradistinction to the usual feeling.

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SECTION III.

REPORT

OF THE

BUREAU OF CLINICAL MEDICINE,

S. LILIENTHAL, M.D.,	New York.
E. J. FRASER, M.D.,	San Francisco, Cal.
J. C. BURGHER, M.D.,	Pittsburg, Pa.
H. B. CLARKE, M.D.,	New Bedford, Mass.
WILLIAM EGGERT, M.D.,	Indianapolis, Ind.
H. N. MARTIN, M.D.,	Philadelphia, Pa.
JONATHAN PETTET, M.D.,	Cleveland, O.
E. C. BECKWITH, M.D.,	Columbus, O.
F. F. De DERKEY, M.D.,	Mobile, Ala.
J. A. CARMICHAEL, M.D.,	New York.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 10.

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LXI.

CHOREA.

By J. C. Burgher, M.D., Pittsburg, Pa.

Certain affections of the nervous system characterized by disordered motility, sensation or mental manifestation, without (so far as is yet definitely ascertained) any evident lesion, inflammation or morbid changes in the nervous structure, are designated by the generic term *neuroses.*

Of the affections embraced in the group of the neuroses characterized by anomalous muscular movements, the more important are chorea, epilepsy, hysteria, rabies or hydrophobia, and tetanus.

While we easily recognize a family resemblance in the diseases of this group, we also find that each one is characterized by a distinct individuality.

To intelligently interpret the interdependencies existing between the motor nerve-fibres and the muscles, which together form the anatomical basis of motility, we must keep in mind the anatomical and physiological relations of the motor processes. Hence a brief summary of these relations may serve as a useful preface to the disorder under consideration.

Regarded in a general anatomical sense, the nervous system constitutes a connected whole, consisting of two principal masses, the *brain* and the *spinal cord*, and of numerous nerves extending from them to every part of the body.

The *brain* and *medulla spinalis*, or *central organs of the nervous system*, are to be regarded not merely as the anatomical origin of the nerves, but also as the physiological excitors of the move-

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ments and seat of the sensations, as well as of the mental operations, and are essentially executive in their office, while the nerves but serve in a ministerial capacity, communicating the orders issued for the multiform movements and diverse sensations.

By means of the extensive ramifications of the nerve-cords and their inherent power of instantaneous transmission, almost every part of the body is brought into such close relation with the central sensorium that impressions made at the most remote parts are immediately recognized at headquarters; while the influence of mental states in determining movements is exerted with like celerity and certainty upon the muscular apparatus.

For the transmission of these two series of impressions (centrifugal) two distinct sets of nerve-fibres are provided, neither of which is capable of assuming the functions of the other; these are designated respectively *afferent* or *sensory* and *efferent* or *motor*. Connected with the spinal cord are thirty-one pairs of nerves, each of which corresponds to a vertebral segment of the body, and has two sets of roots, anterior or motor and posterior or sensory.

I admit that this mode of regarding the two divisions of the nervous system is only approximately correct, since in the central organs proper, as well as in the nerves, very many subordinate parts exist, while in the peripheral nervous system, the ganglia both physiologically and anatomically represent central organs.

Without tracing the course of the motor fibres in the encephalon, suffice it to say that various groups of muscles possess separate motor centres, as those of the face, eyes, trunk and extremities, as evinced by the movements excited in the corresponding muscles on the application of the galvanic current to these centres or so-called "pressure points."

Besides the principal directions taken by the motor nerves in their distribution to their peripheral terminal apparatus, the muscles, there are numerous secondary tracks of communication by which excitation may be conveyed through motor fibres; of which we have examples in the communication which exists in the spinal cord between the motor and sensory nerve-fibres, by

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means of which reflex movements are induced; and the similar connections met with in the medulla oblongata and brain, by means of which the so-called automatic movements are effected. This general and imperfect view of the anatomical and physiological relations of the motor apparatus is sufficiently accurate to show that disturbances of the motor functions may arise from very numerous points and diverse causes, and for these reasons are more complicated in the functional disorders of motility than in those of sensibility. We have then in brief as the physiological functions of the motor processes *voluntary*, *automatic*, *associated* and *reflex* movements.

The functional activity of the motor apparatus, by which the movements of the body or any part of it are affected, is due to contractions of the muscles.

Disorders of the motor processes may be classed under two general heads: 1st. Increased motor phenomena or abnormal activity of various kinds and degrees, called convulsion or spasm. 2d. Diminished motor phenomena, embracing every grade of muscular contractility, even to complete extinction, known as paralysis.

Nature of Chorea.—The spasmodic affection to which the name *chorea* is now commonly applied, and to which it was first limited by Chaussieur, is characterized by incomplete subserviency of groups of muscles of voluntary motion to the will, making the movements irregular, uncertain and purposeless. It is a very unpleasant disease, but is neither painful nor dangerous. It is not attended with *fever*. The patient is neither deprived of consciousness nor of volition. The ordinary movements of the body, performed under the guidance of the will, are disturbed and made uncertain; the voluntary action is arrested and the limb forced to take another direction, rendering the movements uncertain and imperfect. All the voluntary muscles of the body are obnoxious to these irregular clonic spasms. The movements never occur in paroxysms, but are continuous during the waking hours of the patient, and may last for many weeks, suspended only during sleep, and, according to some observers, may even continue irrespective of this condition. My own observations do not confirm this statement, and it appears to me to have been

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copied from one author by another until it has become, by that circumstance alone, merely a stereotyped *opinion*. It is barely possible that the contortions and agitations of the limbs that characterize this disorder can continue while the senses are locked up in calm, natural, refreshing and invigorating slumber. In the irregular movements to which we now limit the name of chorea, the will is properly exerted, but is only partially efficient. There is defective associated action of the different muscles, and in this sense it has been not inaptly called "insanity of the muscles."

Analogous Affections.—For the sake of completeness, it will be in place to mention the analogous affections to which the terms *chorea, choreomania, St. Vitus's dance, St. John's dance, St. Guy's dance, etc.*, have been occasionally but inappropriately applied. These terms were originally used to designate another set of symptoms, consisting chiefly in energetic and usually measured actions of the muscles under the influence of a morbidly excited will. Such appears to have been the character of the chorea of the Germans, the leaping ague of the Scotch, and of tarantism. Of these most singular affections we have authentic narratives from different persons and countries. Since they have happened before they may occur again, and we ought to familiarize ourselves to some extent with their histories. They are characterized by a morbid and perverse volition. The movements are not strictly due to spasmodic actions of the muscles, but to an irresistible propensity to muscular action, increased to a kind of mania by the force of imitation or by the sound of music. Sometimes, however, the muscular disturbance seems unassociated with consciousness, and independent of the will, and differs from spasm only in the orderly manner of its execution. To this class belong cases of rotation of the whole or a part of the body, malleation and irresistible propulsion forwards or backwards. The phenomena recorded as having sometimes occurred under the excitement of religious enthusiasm, though doubtless in the first instance the result of mental impressions, often become involuntary as the malady progresses.

For the sake of perspicuity we adopt the following classification of analogous affections:

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Those affections originally described as *chorea* consisted of inordinate and almost supernatural muscular efforts, depending on mental impulse and excited by imitation or by music, the measure of which seemed to regulate the movements.

From Horstius and others we learn that the complaint was apt to recur annually, and that those affected would continue dancing, under the influence of music, until exhausted by their exertions. Felix Platerus mentions a woman of Basil, Switzerland, who danced for a month.*

Later writers refer to the affection under the heads of *epilepsia saltatoria* and *morbus saltatorius*.

The first definitely recorded manifestation of this affection occurred near Bernburg, Germany, on St. John's day, A.D. 1027, during a festival at which it was the custom to kindle the *nodfyr* and to dance around or through it with various fantastic gestures. It is the opinion that these performances sometimes gave origin to the disorder, which, for several centuries after the period named, occasionally occurred. The alarm produced by destructive epidemics and other calamities, and the excitement incident to the observance of the superstitious rites imposed by Papal authority, probably contributed to the prevalence of these saints' dances.

Tarantism resembles in its important features the affection last mentioned. A short time after having been bitten by the tarantula the victim falls down unconscious and motionless, with difficult respiration and heavy sighing. As these symptoms subside, despondency and melancholy supervene, churchyards and solitary places are sought, a capricious fancy for particular colors is evinced, and in some instances an apparently irresistible propensity to roll in the dirt is manifested. At the sound of suitable music the subject moves first the fingers, then the hands, feet and successively other parts of the body, followed by sighing, dancing and the execution of every variety of violent and fantastic gestures. Those affected are particular as to time, requiring the notes to be run over with great rapidity. This desire for quickness of sound, called *tarantella*, is said to have afforded a test for

* De Mentis Alien., vol. i, p. 15.

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the detection of those who feigned the disease, a practice, according to Bagliva, common among the women of Apulia when they wished to be indulged in music and dancing. If they were satisfied with slowly executed musical sounds, the deception was at once evident. In this affection, as well as in those of St. Vitus's and St. John's dance, a tympanitic condition of the abdomen was frequently present.

The *leaping ague* of the Scotch writers of the latter part of the seventeenth century was characterized by increased energy, but depraved direction of the will, causing an irresistible propensity to dance, tumble and run about in a capricious manner, with more than the natural vigor, activity, precision and endurance. This state was often accompanied by a propensity to secrete anything within reach. The subjects of the malady experienced pain in the head and lower part of the spine, the body eventually becoming distorted.

Malleatia, as described by Morgagni, Crawford and other writers as a form of chorea, occurs in paroxysms, and consists in an apparently uncontrollable inclination to beat or drum with the hands upon the knees or upon convenient objects, as with a hammer, in rhythmical order. Instances are recorded by Drs. Connelly, Abercrombie, Hunter and others of involuntary rotatory or semi-rotatory motions of the head or the whole body. Sometimes the subject would circumvolve with great rapidity, or turn the head from side to side with great velocity. Dr. Watt, of Glasgow, under the name of chorea, relates the case of a girl, ten years of age, who, after suffering from vomiting and severe headache, evinced a singular proclivity to whirl round on her feet like a spinning-top. (*Medico-Chirurgical Transactions*, vol. v.) Propulsion forward, backward and in zigzags has also occasionally occurred. (*Magendie's Physiologie*, by Mulligan, p. 189; and *Arch. Gen.; Lond. Med. and Surg. Journ.*, June, 1832.)

The phenomena which have sometimes occurred in religious assemblies, and which have occasionally prevailed as an epidemic, are well described by Dr. Robertson, as they occurred among a sect of enthusiasts in Tennessee and Kentucky, in the year 1800. (*Inaug. Essay on Chorea St. Viti*, 1805.)

Etiology.—The causation of this disease is obscure. It has

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been imputed to the presence of worms in the alimentary canal, but there is very little evidence to support this position. Many observers have been led to the belief that it is of a rheumatoid origin. Facts do not warrant this conclusion. M. Lee, Copeland, Bright, Ludlam and many others have known it to follow or occur in conjunction with acute rheumatism or rheumatic pericarditis. Now, although coincidences of this kind do happen, it does not necessarily follow that there is any direct connection between the rheumatic complaint and the muscular movements. It may succeed an attack of rheumatism, but is far from being a uniform sequence. The evidence advanced in favor of this theory consists in the proneness of those of a rheumatic diathesis to chorea, the frequency with which in both maladies endocardial affections are evoked, and the tendency of both to recur. Certain it is, a very large majority of persons affected with rheumatism, whether in its acute or chronic form, escape chorea, while, on the contrary, in a large number of the subjects of chorea we fail to detect any evidences of the presence of rheumatism or a constitutional predisposition to it.

If this view of the rheumatoid origin of chorea is correct, the disorder should be very common in localities where rheumatism prevails extensively, which is not confirmed by observation. In my own city, Pittsburg, in the inclement seasons of the year, cases of rheumatism are quite frequent, and yet cases of chorea are very rare. On the supposition that there is a connection between chorea and rheumatism, the logical conclusion is that girls should compose the great majority of rheumatic sufferers, since, arranged according to sex, the ratio of choreic subjects is about three girls to one boy, while it is well known that a much greater number of boys suffer from rheumatism than girls.

As to the cardiac complication, the presence of which is mainly deduced from the existence of a basic systolic murmur, the inference drawn from this sign is by no means a fair one, since the murmur may be due to anæmia and other conditions. The presence of the murmur is certainly not conclusive evidence of endocarditis, inasmuch as it may be due to temporary interruption at the mitral orifice caused by irregular contractions of the papillary muscles, similar to the spasmodic action some-

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times experienced in the striated muscles of the face and other parts of the body. Persons who are subject to chorea are always inordinately sensitive, and apparently slight causes may make a forcible impression upon the nervous system and act as an exciting cause. The malady may be called into existence by an irritation of the peripheral motor nerves by a blow, fall, derangement of the sexual system, dysmenorrhœa, pregnancy, gastric and intestinal affections, etc. Second dentition has been classed among the accidental exciting causes, as well as the developmental changes of approaching puberty, but without sufficient grounds. It is well known from extensive observation that children suffering from chorea during the period of second dentition often recover from it before the appearance of any additional teeth; and when occurring in girls approaching puberty recoveries are common before the menstrual flow makes its appearance. The particular inherited tendency claimed by some writers has not been confirmed by observation. The offspring of women who have suffered from chorea in childhood are remarkably exempt from the disease. Fright as an exciting cause is alleged to be very common. Many children suffer from fright at the slightest alarm, are terrified at any sudden surprise, yet comparatively few of them ever have an attack of chorea; hence we must conclude that it is not a sufficient cause for its production in otherwise healthy children. There can, however, be but little reason to doubt that impalpable agencies of a psychical nature play a very active and important part in the development of this disorder in sensitive, nervous persons, as fear, anxiety, anger, etc. Finally, to arrive at a plausible explanation of the etiology of this and analogous neuroses of motility, we must admit that trophic disturbances, too impalpable for recognition by the senses, play no mean part in their causation. May not the delicate disturbances of motor nerve and voluntary muscle *nutrition* account for the condition upon which the predisposition depends?

Complications with Other Diseases.—Chorea affords no immunity from the invasion of other diseases. It is not unusual to find it complicated with deranged uterine functions, sometimes with chlorosis, and often with amenorrhœa. Hysteria may be superadded when the chorea occurs about the time of puberty.

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It sometimes occurs in conjunction with acute rheumatism and rheumatic pericarditis, and with certain cutaneous eruptions. Cases are recorded in which hemiplegia has been associated with it. In these cases the chorea was limited to the paralyzed side and designated hemichorea. It is sometimes accompanied by neuralgia. As before stated, the affection is not characterized by febrile movement. When fever is present it is due to some coexisting complication or intercurrent malady.

Symptoms.—The pecular muscular movements are preceded by certain prodromatic symptoms. A loss of interest is manifested in the ordinary occupations and amusements. Among the mental phenomena are peevishness or irritability of temper, impaired memory and mental dulness. The usual vivacity is wanting, unrest, insomnia and loss of appetite may also be classed as forerunners. The muscles of the face are usually first affected by contortions and irregular twitchings, which resemble voluntary grimaces. In the progress of the complaint, a greater number of muscles are implicated and the spasmodic action is intensified. The muscles of the extremities, head and trunk are involved at times. The patient writhes, twists the shoulders, and contorts the body, while the movements of the arms resemble the gesticulations of a pantomimist. The walk is unsteady, one foot is rather dragged than lifted, the patient moves or sways from side to side. In severe and protracted cases the disease increases, the patient becomes helpless, and seems as one palsied; is unable to walk or convey food to the mouth. In extreme cases deglutition is difficult, and speech interrupted, the mouth is distorted, and the expression vacant. When asked to show the tongue, it is suddenly protruded and a moment after as suddenly retracted. This sudden protrusion and withdrawal of the tongue, termed the "choreic thrust," is almost characteristic of the disease. In severe and protracted cases there is usually some imbecility of mind manifested, but it disappears with the other symptoms. Chorea in this form is essentially a disease of childhood and youth. It is most commonly met with in persons from five to sixteen years of age. It has been known to occur at the age of two years, and also occasionally to develop in adult life, and even in old age. It is occasionally developed during gestation and is

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then denominated "chorea gravidorum." The movements are always increased when the subject is conscious of being observed and when under any emotional excitement.

Differential Diagnosis.—Chorea is generally easily distinguished from most other disorders. The partial dependence of the irregular movements on the will is a prominent characteristic diagnostic. It differs from the clonic spasms of acute cerebral disease by the absence of fever, delirium or coma; from epilepsy by the absence of unconsciousness and the continuous movements, while epilepsy is characterized by recurring attacks of sudden loss of consciousness and convulsions. From tetanus it is easily distinguished by the absence of *tonic* spasms and pain; and hysterical outbursts differ from the spasms of chorea in their remissions and by partial unconsciousness of the patient. Paralysis agitans consists in weakness and tremor, rather than spasmodic contraction, and belongs to diseases of later life. Mercurial tremor is discriminated from chorea from the circumstance that in the former the movements cease when the trembling limb is supported, the spongy condition of the gums, and its occurrence among persons whose occupations render them liable to the absorption of mercury. Facial spasm differs from the choreic in being always of equal intensity, and in generally being confined to one side of the face and to the same group of muscles. Writers' cramp, and the very analogous affection of seamstresses and piano-players, may be recognized by the cessation of the spasms on ceasing to use the affected hand in writing, sewing or playing. In these affections the cramps are confined to the fingers, which can be used for any other purpose without inconvenience, aside from that which brought on the complaint.

Prognosis.—Chorea in its uncomplicated form, whether of the *minor* or *major* variety, seldom proves fatal. It may, however, become chronic. When the irregular movements are confined to the muscles of one arm or those of the head, especially when occurring in the adult, they are rarely, if ever, cured. The susceptibility of the nervous system to impressions is less in the adult than in the child; hence the probability of existing organic lesion is greater when the disease occurs in advanced life, especially if

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the limited character of the malady implies a local seat. The prognosis is generally favorable, and the disorder becomes dangerous only when associated with, or merged into, some more formidable disease, as, for example, epilepsy, dropsical effusion into the serous cavities, paralysis or organic disease of the heart, brain or spinal cord. The incessant movements may give rise to excoriations and contusions which may result in erysipelas, and abscesses, which may contribute to a fatal termination; or the patient may become exhausted by prolonged irritation, loss of sleep or inanition, and death ensue without any superadded disease. When occurring during gestation it is liable to lead to abortion or premature delivery, with their attendant complications and dangers.

Treatment.—Chorea seems to be a self-limited disorder, running a more or less definite course, and having an intrinsic tendency to terminate favorably. A great number of different drugs have been employed and highly extolled in the treatment of this disease. Many of these have doubtless been quite innocent of taking other than an imaginary part in the recovery of the patients to whom they were administered. According to *old-school* authorities, none of the diverse remedies recommended can be relied upon for promptly arresting the course of the disease. This statement will appear the more evident by the confirmation of the following statement, viz., *that patients recover as speedily and completely without medication as with it.* Of thirty-eight cases under the care of Drs. Gray and Tuckwell, in the Radcliff Infirmary, Oxford, the average duration of chorea treated without medicine was nine weeks and six days. According to Dr. Bigbie's plan of treating chorea with Arsenic in gradually increasing doses, the average duration of the disease was from *ten* to *eleven* weeks, the difference being in favor of the expectant plan! Dr. Hiller, in his work on *Diseases of Children*, gives the mean duration of thirty cases of chorea treated with Arsenic, etc., as "about ten weeks." According to Lee's estimate of one hundred and seventeen cases treated with various medicines, the average duration of the disease was sixty-nine days. It is remarkable that the average duration of chorea under the expectant treat-

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ment corresponds with Lee's average to a day. Flint* says the average duration is from two to three months.

Arsenic, Conium, Bromine, Potash, Calabar bean, Iron, Strychnine, Chloral, Chloroform, Opium, Zinc and many other narcotics and antispasmodics have been used by the dominant school, with but very little benefit, except to prove them worthless in this disease when used in this haphazard way. Notwithstanding this array of testimony, it by no means follows that great benefit may not result both from judicious treatment and appropriate medication. Each case should be individualized, and all the indications met. If there are coexisting disorder or morbid conditions, they must be met by the careful selection of the homœopathically indicated remedy. Hygienic and dietetic measures are of great importance. In severe cases, where the patient is being exhausted by constant movements and loss of sleep, nutritious diet, an occasional sponge bath with tepid water, exclusion of company from the sick-room and freedom from excitement, are useful as palliative measures. In extreme cases bodily restraint is important, since the exhausting effects of the disease are largely due to the incessant movements. This may be accomplished by carefully bandaging the limbs, or by tying the feet together and placing pillows along each side of the patient, as you would place sand-bags along each side of a fractured leg. Should these means prove insufficient, the limbs may be fixed with well-padded splints and roller bandages. The long side-splints, reaching from the foot to the axilla, may be employed by first well padding them and placing one on each side of the body, and bandaging the arms to the outer and the legs to the inner aspects of the splints. If necessary, a retaining roller may be applied around the splints, encircling the body. Aside from the improvement which follows the mechanical restraint, it prevents excoriations which might otherwise result from the muscular jactitations, contusions from falling out of bed or striking against other objects, etc. In mild cases mere rest in bed, the avoidance of everything which causes excitement or alarm, with suitable diet and the appropriate remedy, will speedily restore the patient. To these remarks

* London Lancet, Nov. 18th, 1876.

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on the general management of chorea we have only need to add the indications for a few of the many remedies furnished by our Materia Medica which have been used with prompt and permanent relief.

Actæa racemosa.—This drug has yielded very satisfactory results in cases of chorea in subjects with a rheumatic diathesis, those suffering from uterine irritation, and in cases resulting from physical causes. The abnormal movements consist of twitching, jerking, twisting motions, usually unilateral and confined to the left side, and often attended by pains of a neuralgic or rheumatic character; depression of spirits and insomnia.

Agaricus m.—This drug has been credited with many cures. Dr. R. Hughes (*Manual of Therapeutics*, p. 163) reports having cured a case of long standing in an old man with drop doses of the mother tincture. "It had the peculiar feature that the twitchings of the arms ceased when he used them in his work of shoemaking. Itching spots on the skin resembling chilblains. Freedom from involuntary movements during sleep."

Belladonna.—After mental excitement. Constantly changing emprosthotonos to opisthotonos; boring the head into the pillow; numbness of the fingers; grinding of the teeth; tenderness of the first dorsal vertebra; flushed face and inflamed throat.

Calabar bean.—Chorea of the right side; a feeling as if the tongue was swollen and paralyzed.

Calcarea c.—Twitching of the muscles; trembling of the body; falling down; great weariness; inability to walk; chorea during second dentition, or in leucophlegmatic subjects, when resulting from fright; from onanism.

Cicuta v.—Twisting and distortion of the limbs, sometimes accompanied by screams; sudden rigidity, with jerking of the limbs.

Cina.—The movements often commence with a shriek; the tongue, larynx, œsophagus are affected, causing a clucking from the throat to the stomach, similar to that caused by water when poured out of a bottle.

Crocus s.—Spasmodic contractions of single sets of muscles; jumping, dancing, laughing, whistling; wants to kiss everybody; epistaxis of dark stringy blood; changeable disposition.

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Cuprum.—Irregular movements commencing in the fingers or toes; cramps in the calves; twitchings often confined to one side; worse from motion, better when lying. Dr. W. R. Childs reports a case in the *Hahnemannian Monthly*, Vol. IX, p. 23, cured by *Cuprum* 4^{m}.

Hyoscyamus.—Movements of the head from side to side; throws the arms about; misses what is reached for; gait tottering; very talkative, or loss of speech; easily excited to laughter.

Ignatia.—Convulsive twitchings, especially after fright or grief; worse after eating; better lying on the back; sighing and sobbing are often characteristic.

Laurocerasus.—After fright; unable to stand, sit or lie down on account of constant motion; clonic spasms of all the limbs, with paralytic weakness; constant jerking; indistinct speech; patient gets angry when not understood; gasps for breath.

Natrum m.—Suited to chronic cases after fright or suppression of eruptions on the face; jerks of the right side of the head; paroxysms of jumping high up, regardless of obstructions; twitchings of the right side; worse at full moon.

Mygale l.—Facial muscles distorted; arms and legs in constant motion; unable to dress without assistance; frontal headache; vertigo; grating of the teeth at night; worse in the morning.

Nux v.—Chorea attended with a sensation of numbness in the affected muscles; unsteady gait; the feet drag; movements renewed by the least touch, but relieved by firm, steady pressure; impaired appetite; constipation; despondency; symptoms all worse in the early hours of the morning.

Opium.—Twitchings from emotions, fright, anger, etc.; trembling of the head, arms and hands; the arms are thrown out at right angles with the body, with spasmodic jerkings of the flexors.

Secale c.—Spasmodic twitchings, beginning in the muscles of the face and spreading over the whole body, sometimes increasing to dancing and jumping; convulsive starts, with the fingers spread out.

Sticta p.—Chorea complicated with hysteria, when the movements are confined to the lower extremities; evening aggravation; the feet and legs jump and dance about in spite of efforts

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to prevent them; a sensation as if the legs were floating in the air when lying down.

Stramonium.—The convulsive movements have the characteristic feature of affecting the parts of the body crosswise, as, for instance, the left arm and right leg, while the corresponding limbs are unaffected; or the muscles of the head and neck are violently agitated; or the spasms may involve the whole body, compelling the performance of the most grotesque leaps, motions and gestures; clasps the hands over the head; full of fears; shy; stammers; puts hands to the genitals; weeps and laughs alternately; after fright.

Sumbul.—Constant jerking of the head and limbs, with protrusion of the tongue; voracious appetite; happy disposition, with continued smiling; expression idiotic; fear of becoming insane; vomiting of food and constipation of the bowels.

Sulphur.—Frequent spasmodic jerking of the whole body; tremor of the hands; unsteady walk; in chronic cases, after suppressed eruptions, or when eruptions characteristic of the remedy are present; peevish, irritable, obstinate.

Tarantula.—Chorea major, with the necessity for continual movement, with vertigo; præcordial anxiety and fear of impending death; the mental affections are alleviated by diversion, especially music.

Millie J. Chapman, M.D., reports the following cases, treated by her at the Homœopathic Dispensary of Pittsburg:

A girl æt. 8; third attack. The first attack occurred when the child was about three years old, the second when five; each attack lasted about six months. The third attack was well developed when she applied at the dispensary for treatment. Movements bilateral; all the muscles of the body seemed to twitch and jerk; gait swaggering; walked with difficulty; hands useless; could not help herself; speech stammering, could not make herself understood; face flushed; pupils dilated; throbbing headache. Bell., Nux v. and Ignat. were prescribed in the order named, each remedy being continued for two consecutive weeks. At the end of six weeks the symptoms were all aggravated. Tarantula[200] was then prescribed, and continued at intervals of four hours for one week, then one dose a day for another

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week; third week a dose every other day; then one dose a week for five weeks, at the end of which time the recovery was complete.

Veratrum v.—Muscular movements violent and general; frothing at the mouth; champing of teeth; difficult deglutition; sexual excitement; palpitation of the heart; sleeplessness.

Zincum.—Twitching in various muscles; chorea in which the general health suffers much; despondency; the whole body jerks during sleep; starting and rolling from side to side on waking; cries out as if frightened; feet constantly moved while lying in bed; better from exercise.

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LXII.

SCLEROSIS OF THE POSTERIOR COLUMNS OF THE SPINAL CORD—LOCOMOTOR ATAXIA.

By J. Martine Kershaw, M.D., St. Louis.

This disease has received a variety of names, such as tabes dorsalis, consumption of the spinal cord, progressive motorial asynergia and progressive locomotor ataxy. I prefer to call the disease sclerosis of the posterior columns, because, as Dr. Hammond says, it is the "proper pathological term for the affection under question."

Definition.*—"A peculiar form of paralysis (?) characterized by unsteady and disorderly muscular movements, but with muscular power entire, and more or less progressive loss of the faculty of coördinating power (voluntary and instinctive). There is sometimes temporary diplopia, with unequal contraction of the pupils. The course of the disease is slowly progressive, and the anatomical lesion is generally a degeneration of the posterior columns and horns of the spinal cord and posterior roots of the spinal nerves, sometimes with peripheral structure-change in the cranial nerves, and chiefly the second, third and sixth pairs in cases where the sight is affected."

Morbid Anatomy.—The disease in question depends on the morbid changes in the spinal cord, that is, in the posterior or sensory columns of the spinal cord.† "In true locomotor ataxy the spinal cord is invariably altered in structure. Its membranes, however, are sometimes apparently unaffected, or affected only in a slight degree; but generally they are much

* Science and Practice of Medicine, Aitken.

† Dr. Lockhart Clarke, London Lancet. Quoted from Anstie.

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congested, and I have seen them thickened posteriorly by exudations, and adherent, not only to each other, but to the posterior surface of the cord. The posterior columns, including the posterior nerve-roots, are the parts of the cord which are chiefly altered in structure. This alteration is peculiar, and consists of atrophy and degeneration of the nerve-fibres to a greater or less extent, with hypertrophy of the connective tissue, which gives to the columns a grayish or more transparent aspect; in this tissue are imbedded a multitude of corpora amylacea. Many of the bloodvessels that traverse the columns are loaded or surrounded to a variable depth by oil-globules of various sizes. For the production of ataxy it seems to be necessary that the changes extend along a certain length, from one to two inches of the cord. The posterior nerve-roots, both within and without the cord, are frequently affected by the same kind of degeneration, which sometimes extends to the surface even of the lateral columns, and occasionally along the edges of the anterior. Not unfrequently the extremities of the posterior cornua, and even deeper parts of the gray substance, are more or less damaged by areas of disintegration. The morbid process appears to travel from centre to periphery, that is, from the spinal cord to the posterior roots. In the cerebral nerves, on the contrary, the morbid change seems to travel in the opposite direction, that is, from the periphery toward the centres. From the optic nerves it has been found to extend as far as the corpora geniculata, but seldom as far as the corpora quadrigemina. With the exception of the fifth, seventh and eighth pair all the cerebral nerves have occasionally been found more or less altered in structure."

"These *anatomical lesions (so exactly limited to the posterior columns of the cord and the root issuing therefrom) by no means account for all the symptoms which are clinically recognized as distinctive of this disease. The nature of the peculiarly characteristic gait is sometimes referred for explanation to the loss of the 'muscular sense' of Bell, or the loss of 'sense of muscular activity' of Gerdy, or something equivalent. The incoördination is essentially a reflex disorder, and the lesions involve the

* Principles and Practice of Medicine, Aitken.

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coördinating centres (posterior columns of spinal cord) of certain muscular acts, such as walking and standing Some of the phenomena of the disease suggest involvement of the sympathetic, *e. g.*, the vesical phenomena; also the phenomena of irregular contractions of the pupils, and their becoming dilated during paroxysms of pain, or when the legs or arms were pricked or pinched."

SYMPTOMS.—The disease develops very slowly, months and even years sometimes passing before its true nature is suspected.

PAINS.—Sharp, shooting pains in the lower extremities are experienced in the early stages of this disease, and are generally referred to rheumatism or neuralgia. These pains are especially severe in stormy weather and at night. I have a patient now under treatment whose sufferings are extremely aggravated during a snowstorm and on frosty mornings. These pains are at first markedly periodic, but finally lose their periodicity, acting more or less steadily, with occasional interruptions of a sharp, stinging character. These pains are not confined to the limbs, but may be felt in various parts of the body. "The most frequent type of the pains is lancinating or stabbing; they are like violent neuralgias occurring successively in various nerves, shifting about from one to another. Sometimes it will happen that the pain remains fixed to one particular nerve for hours together, but it never continues long without showing the characteristic tendency to move about. Most commonly our diagnosis is soon assisted by the occurrence of a greater or less degree of ataxy. But even before the setting in of definite ataxic symptoms, the shifting character of the pains, and the development of a very noticeable amount of anæsthesia, together with the absence of anything like positive motor paralysis, will have given us the necessary clue. The effect of treatment, or rather its want of effect, usually affords powerful assistance in distinguishing the pains of locomotor ataxy from those of true neuralgia."* Gastralgia and general abdominal pains are not uncommon. These pains, because of their resembling those of other diseases, are

* Neuralgia, Anstie.

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very apt to deceive the physician. "As the pains in the limbs are often taken for evidences of neuralgia or rheumatism, so these gastric and intestinal troubles are frequently regarded as indicating the existence of dyspepsia. I have had a number of patients under my charge who, with double vision, ptosis, incoordination and the other symptoms of posterior spinal sclerosis, had been told that 'it was all dyspepsia,' because vomiting and gastric pain were prominent features of the disease." The *London Lancet*, January, 1877, contains the following: "To the catalogue of visceral neuralgias in association with locomotor ataxia, . . . must be added yet one more, namely, a renal neuralgia. . . . A man thirty-nine years of age was admitted into the hospital suffering apparently from a severe attack of renal colic. There was extreme lumbar pain, marked retraction of the testicle, vesical tenesmus, suppression of urine, vomiting and a condition of semi-coma. The diagnosis of renal colic, at first entertained, was subsequently abandoned, chiefly on the ground of the long duration of the attacks, namely, several days at a time, followed by extemporary cessation and recurrence, finally becoming continuous. Moreover, the pain was radiated towards the shoulder, as well as towards the thigh, and the urine was free from albumen. At the post-mortem examination the kidneys were found to be healthy, and the cause of the renal trouble was found to lie in sclerosis of the posterior columns of the cord. The patient had never had any incoördination of movements. M. Reynaud thinks there can be no doubt that this was a case quite analagous to those in which the stomach and intestines are usually the seat of neuralgia. . . ." Another early symptom of locomotor ataxia is some affection of the eyes. The difficulty may manifest itself in want of accommodation, diplopia, strabismus, ptosis, contraction or dilatation of the pupils, etc. "Thus there may be amaurosis due to atrophy of the optic nerve, or of the disk, a condition readily detected by the ophthalmoscope. Or the third pair of nerves may be involved, causing ptosis, divergent strabismus and dilatation of the pupil; or the sixth pair of nerves alone may be affected, causing convergent strabismus; or there may be only dilatation of the pupil and prominence of the eyeball from the irritation propagated from the cilio-

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spinal centre through the sympathetic nerves. These ocular troubles never take place in posterior spinal sclerosis existing below the cilio-spinal centre—the upper dorsal region of the cord."* These symptoms are very prominent in some cases. Like the abdominal pains, they are likely to mislead the physician if not extremely careful. Dr. Lockhart Clarke says he has known of "operations needlessly performed on the eye by surgeons who were ignorant of the nature of locomotor ataxy." "Amblyopia often occurs at the commencement of the spinal affection, and a careful examination as to the true nature of the impairments of vision should be made, for it may only be due to a loss of the power of accommodation from paralysis of the ciliary muscle, and be not at all dependent upon any disease of the optic nerve. A want of care in the examination as to the true cause of such amblyopia has led to much confusion amongst writers upon this subject. In cases in which the atrophy of the optic nerve is dependent upon locomotor ataxy, the former may remain stationary for a few weeks, and then again progress." (Graefe.) Another early, constant and very characteristic symptom is the loss of tactile sensibility. This is chiefly manifested in the feet, although if the cord above the brachial plexus be the seat of lesion, the upper extremities will be involved. This loss of sensibility gives rise to some very peculiar and characteristic symptoms. The æsthesiometer shows diminished tactile sensibility to an extreme degree in well-marked cases. Some patients whom I have examined were not able to detect the two points of the compass when several inches apart. The following, from Muller's *Philosophy*, will show the degrees of sensibility of certain parts of the body:

Point of tongue,	½ line.
Tip of nose,	2 lines.
Extremity of great toe,	5 "
Dorsal surface of first finger,	7 "
Lower part of forehead,	10 "
Five upper vertebræ,	24 "
Lumbar region,	24 "
Middle of thigh,	30 "

* Diseases of the Nervous System. Hammond.

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This loss of sensibility of the feet causes the patient to imagine that there is some substance between his foot and the sole of his shoe, or that he is walking on wool, or that tar and sand are glued to his feet. As this sensibility diminishes, great care is required in walking, the patient stumbling at any little inequality of the floor or pavement. After a little while he finds it necessary to watch his feet, for the tactile sensibility being lowered, he forgets where they are, and therefore fails to balance himself. Having lost one sense, that is, sensibility, he finds it necessary to use another, the sight, to enable him to walk. Now, because of the difficulty just mentioned, a patient of this class *cannot stand with his eyes shut nor walk in the dark.* This symptom, although observed in some other diseases, is well marked in all cases of true locomotor ataxia. The gait of these patients is peculiar. The feet are spread out widely in the attempt to maintain a balance, the heels striking the ground first, and the feet following with a flop. The walk resembles in some respects that of a drunken man. There is this difference, however, between the two: the drunken man, though generally considered tight, is, on the contrary exceedingly loose, while the ataxic patient is just the opposite, all the muscles being in a state of extreme tension in the effort to maintain a balance, or to effect coördinate movements. "A gentleman of Brooklyn consulted me a short time since for an affection which was very evidently posterior spinal sclerosis. The first indication of disease, as he informed me, was that it had been his habit, while at his morning ablutions, to shut his eyes, and he had noticed, about two months previously, that when he did so he could not maintain his equilibrium."*

ANALGESIA.—We also find nervous conduction greatly impaired. An irritation sustained by the patient is not perceived until after a much longer interval than would be the case in a state of health. The prick of a needle is not noticed in some cases for several minutes, and one author has known twenty minutes to elapse before the patient was aware of the injury. It has been told that the want of muscular coördination in the disease

* Diseases of the Nervous System. Hammond.

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was due to cerebral difficulty; this, however, cannot be entertained in view of the recent researches and discoveries with respect to this complaint. Dr. Hammond makes the following excellent observations with respect to these diseases: "Derangement of locomotion certainly does result from injury or disease of the cerebellum. . . Beyond a doubt the disorder is, however, clearly due to vertigo. There are, moreover, headache, vomiting and eventually in some cases hemiplegia, generally of the opposite side to that of the cerebellar lesion. . . . The gait of the person thus affected is exactly similar to that of a drunken man. As Carre says, the movements are not abrupt, jerking and exaggerated as they are in locomotor ataxia. They are more uncertain, and do not depend upon any defect of coördination, but upon weakness of the voluntary power. . . In cerebellar lesions the cutaneous sensibility is unimpaired, whereas in posterior spinal sclerosis it is always diminished. A patient with disease of the cerebellum can stand and walk better with his eyes shut than with them open, for the vertigo is not in the former condition felt to the same extent. The reverse is true of posterior spinal sclerosis."* This disease is not a paralytic affection. There may, at times, be some paralysis, but this is slight and exceptional. The ability to move the muscles is not lost, but the power to co-ordinate or move them in accordance with the will. There is a very great difference between the two. The dynamometer shows the patient to be possessed of considerable muscular power. He is able to push quite forcibly, and to start on a walk with considerable vigor, but he tires out in a short time. "He is still good for a 'spirt,' but long muscular exertion fatigues him." Patients of this class are apt to lose their appreciation of weight. For instance, you place an ounce weight in one hand and a pound weight in the other, they will not be able to tell you which is the heaviest. This can be tested when the upper extremities are affected by the use of an instrument known as the baræsthesiometer. This disease has been confounded with the general paralysis of the insane. The diseases are by no means

* Diseases of the Nervous System.

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identical, being different in very many respects.* In the *British Medical Journal*, September 20th, 1873, Dr. W. H. O. Sankey reviews the work of M. Tapinard on *L'Ataxie Locomotrice*, in which a summary of the phenomena is made in one hundred and fifty cases. After mentioning the several types into which M. Tapinard divides locomotor ataxia, Dr. Sankey compares the two diseases, and sums up the differences in the following tabular form:

PARESIS.	ATAXY.
Runs its course in a few years.	Is much slower usually, and may last ten or even twenty years.
Commences with mental symptoms.	Commences with pain in a distal nerve.
Is attended with libidinous ideas.	Is attended with absence of sexual feeling.
The motor symptoms are secondary in the order of time.	The motor symptoms are the primary phenomena.
Is only rarely complicated with pelvic difficulties.	Pelvic symptoms are a prominent feature.
There is often great violence.	The mental phenomena are imbecility and impaired memory.

The above table is not to my mind as complete as it should be. There are several important symptoms of each disease omitted which should have been mentioned, that a correct diagnosis may be arrived at. I have arranged the following table, which I think defines each disease clearly, and affords a comparison of the several similar symptoms of each disease:

GENERAL PARALYSIS.	LOCOMOTOR ATAXIA.
Intellect affected from the first.	Motor difficulty the primary symptom.
Mental depression, with anger and irritability at first, succeeded by great cheerfulness and expectation.	Mind perfectly clear until a very late stage.
Rapid failure of memory.	Slow and not especially marked.
Moral tone lost, gross indecency.	Not necessarily—very exceptional.
"While scarcely able to drag one foot after the other, he will brag of his great fleetness of foot, and in the very death-grasp will mutter about his extreme strength and endurance."	Just the opposite. *Lack of confidence is a marked feature from the very development of the incoördination.*

* Half-Yearly Compendium, January, 1874.

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General Paralysis.	Locomotor Ataxia.
First, difficulty of articulation in speaking.	Motor difficulty first noticed in the feet.
Intra-pelvic symptoms not prominent.	Intra-pelvic symptoms prominent.
With the ordinary shuffling walk of this disease, can stand perfectly well with the eyes shut. Where the ataxic walk is marked, as is not unfrequently seen, cannot stand or walk with the eyes shut.	Cannot stand or walk with the eyes shut. A constant symptom.
Intense sexual exaltation, with or without impotence.	Intense sexual desire at first, followed by loss of sexual instinct in the later stages.

Speaking of the want of coördination observed in locomotor ataxy, Dr. Bastian compares this condition with that known as amnesia and says: "This defective action in the speech-centres and their related parts is very comparable with what occurs in other nerve-centres in locomotor ataxy. In this disease a man may have an adequate knowledge of what he intends to do, though when he attempts to move his legs in definite directions he jerks them about in an irregular manner, or even moves them in a way the reverse of what he had intended. In each case, therefore, we have to do not so much with lack of power as with involuntary or misdirected power."* Sometimes patients with this complaint are unable to advance. In all well-developed cases there is an extreme *want of confidence.* They are constantly afraid of falling or of being run against, or of meeting with some accident in consequence of their infirmity. There is marked sexual derangement to be observed in this disease. At first the sexual sense is augmented. There are nightly erections with ejaculations, as many as seven or eight in a single night in some cases. This finally subsides, and the sexual power is in most cases entirely lost. The bowels are generally constipated. The bladder is frequently paralyzed, as also the sphincter vesicæ. The sense of constriction about the waist observed in acute myelitis and other affections of the cord is present in this disease. With reference to the so-called muscular

* Paralysis from Brain Disease.

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sense of Sir Charles Bell, Dr. Hammond says, quoting from Bell as follows: "'Between the brain and the muscles there is a circle of nerves; one nerve conveys the influence from the brain to the muscle, another gives the sense of the conditions of the muscle to the brain.' In my opinion . . . there is no such perception as that referred to, and its existence is certainly not established by the case reported by Dr. Ley to Sir Charles Bell, and which is incorrectly quoted by Trousseau; for it proves nothing more than that defective sensibility existed, and that the sense of sight had to be used in order to obtain a correct idea of what the insensible muscles were doing."* There is a peculiar disease of the joints observed in connection with some cases of locomotor ataxia. "This was first described by Dr. Charcot of Paris. The knee-joint is almost invariably the seat of the disease, which occurs suddenly as an elastic œdematous swelling. The part is neither red nor painful, nor is there any constitutional disturbance or fever. Like the strabismus and urinary affections, it may last only a short time, or be prolonged and give rise to permanent deformities. In the latter case the bones and cartilages of the joint have been found diseased."† Locomotor ataxia is mostly observed between the ages of thirty-five and fifty. Males are much more frequently attacked than females.

DIAGNOSIS.—The general paralysis of the insane and cerebellar disease are those with which posterior spinal sclerosis is most likely to be confounded in the later stages. At an earlier period it might be taken for neuralgia, rheumatism, dyspepsia or some eye affection apart from the real disease.

All these have been already noticed in this paper. "At an early period of the disease, before motor ataxy has made its appearance, and when only one, or perhaps two, of the other symptoms are present, the differential diagnosis is exceedingly difficult. But whenever strabismus or the peculiar flying pains suddenly attack an otherwise healthy person, they should always suggest the possibility of their being the precursors of ataxy. In a large pro-

* Diseases of the Nervous System.

† J. Lockhart Clarke, System of Surgery, Holmes.

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portion of instances the strabismus is accompanied by amblyopia, and when it is single the amblyopia is on the corresponding side."*

PROGNOSIS.—This is very unfavorable; very few ever get well, and only so when taken in the very early stages of the complaint. Dr. Hammond says he has cured five cases out of ninety-one. I have seen patients get better, but they all do that at times for a short while. One patient improved very much under Ledum palustre. She was under my care a few months only when I lost sight of her. One patient now under treatment has steadily improved for the past four months under Picric acid, second dilution. She has had the disease for five years, and has been under my treatment for eight months. The pains have left her to a considerable extent; she can take her eyes from her feet, and look above when standing or walking, and is improved in a general way.

CAUSES.—There is little to be said on this subject. It is generally supposed that venereal excesses have something to do in causing this disease. This is perhaps true to an extent, but not so much so as is generally believed. Alcoholism, mental anxiety and the general wear and tear of life have, perhaps, more or less to do with it.

TREATMENT.—As already mentioned, treatment has amounted to little, as far as curing this disease is concerned. Allopathic physicians use Ergot, Bismuth, Baryta carb., Phosphorus, Iodide and Bromide of potassium, Belladonna, etc. Cod-liver oil is a good remedy. I use it in the 3d trituration in this and other diseases calling for it. I have thought that some of my patients were benefited by having the back rubbed night and morning with alcohol. Electricity is useful; the constant current should be used, not the interrupted. I have never received any benefit from Phosphorus or Nux vomica. Rhus tox. seemed to help one patient and Colocynth another. Picric acid promises more than any other one remedy. Argentum nit. has done good in allopathic hands, as also in the hands of some of our own school. Dr. Hammond advises the use of crutches as a means of saving the nervous strength of this class of patients.

* Lockhart Clarke, in Holmes's Surgery.

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LXIII.

CHRONIC MYELITIS.

By S. Lilienthal, M.D., New York.

Leyden, in his great work, *Clinic of Spinal Diseases*, truly remarks that the study and elucidation of the spinal diseases date back only a few decennia; but rapid strides have been made in these few years, and they deserve our best attention in order to adapt the treasures of our Materia Medica to their different varieties. Just in proportion as we become more able to differentiate more closely between one para- or hemiplegia and another, we will be enabled to individualize the remedy suitable to the individual case.

After beginning the study of myelitis in its totality, I found the subject of such vast dimensions that it would overreach the space wisely alotted to a single member by your publishing committee, and I therefore took the liberty of publishing the pathology and homœopathic treatment of acute myelitis in the *North American Journal of Homœopathy*, and reserved for our study here the interesting subject of the same disease in its chronic state.

Leyden, the successor of the great Traube in the clinical chair at Berlin, is most explicit and clear in the definition and pathological statement of this disease, and we cannot do better than to follow such a distinct delineator. We read, vol. ii, p. 318, *Chronic Myelitis—Sclerosis* (gray degeneration) *of the Spinal Cord.*

A. *Sclerosis* (gray degeneration) *of the posterior spinal columns. Tabes dorsualis* (Romberg). *Ataxia locomotrice progressive* (Duchenne).

1. *Symptoms of the Motory Sphere.*—The most characteristic

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symptom is, that the functional qualities of each of the muscles remains intact, but their *combined action*, the *coördination*, suffers; the rough power of voluntary motion is perfectly preserved; there is no paralysis of the muscles. The nutrition of the muscles is also generally normal, as also their electrical and mechanical irritability. But the muscles, though healthy, fail to act in unison; their coördination is disturbed, which gives rise to the ATAXIE LOCOMOTRICE. All motions show an insecurity, they are done in starts, a governing power is wanting, and thus they lose their aim and disturb one another. Very characteristic and of importance is the gait of ataxic patients. In the normal gait the heel strikes the ground first and then the ball of the foot comes down; there is an interval, but the two motions are so nearly simultaneous that it is almost inappreciable. In locomotor ataxia there is an interval of longer duration. The patient's foot does not describe a semicircular line, as in hemiplegia, but is thrown forward by a peculiar spasmodic action, then the heel is brought down with great violence, and after an appreciable interval the ball of the foot strikes the ground. Sometimes in consequence of the plantar anæsthesia the patient is unable to place his foot upon particularly small surfaces, as upon the step of a carriage, etc. As regards the peculiarities of gait, the foot not only strikes the ground with violence, but, in consequence of the patient's want of confidence, he invariably widens his base for additional support. Instead of throwing the feet directly forward, he throws them obliquely, first to one side, then to the other, resembling somewhat the behavior of a drunken person trying to maintain his balance. Pretty soon the patient needs a support; at first a cane may suffice, but soon crutches are necessary. There is especial danger of falling as soon as his attention is diverted from his legs, and in turning round in the street he is very apt to fall. During its further progress the legs cross in walking, which becomes nigh impossible, but very soon even standing becomes laborious, and the legs give way to the weight of the body. The patient remains in a sitting or lying position, but even during the last stage of this paraplegic state the patient can throw about his emaciated (by non-use) legs, and they still react well to the electrical current.

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Sight moderates all the symptoms of ataxia, and Romberg has shown us the important symptom that such patients stagger when closing their eyes, and in later stages the patient is even unable to stand up when shutting the eyes. The patient does not need full bright daylight to see his feet, and a mere glimmering suffices to set him right about his situation.

When the upper extremities are invaded in locomotor ataxia, the symptoms are not so evident and high-graded; the head is more particularly liable to be affected, and the patient will no longer be able to perform any of the finer muscular movements with the precision of which the hands and fingers especially are normally capable; he will find it impossible to pick up a pin, to tie a cravat, and if he tries to bring a fluid to his lips he will not fail to spill some of it. The patient by-and-by is unable to dress or to feed himself.

The ataxia remains limited to the extremities. Sight and the oculo-motory muscles are intact and the disturbances of speech are rare. Reflex irritability goes *pari passu* with the state of sensibility, with hyperæsthesia increased, with anæsthesia diminished. There may be twitchings of the affected extremities all through the disease, but contractions belong to a late stage. Rigidity of the muscles is never observed; the muscles remain soft, relaxed, and offer no resistance to passive movements.

2. *Symptoms of the Sensible Sphere.*—The most important are the *subjective* pains, which are like electric shocks, boring, pressing, more rarely tearing, deepseated in the muscles and bones and paroxysmal. The paroxysms are of changing intensity and duration, setting in suddenly and reaching their acme after a few minutes; they are usually fixed to a small spot, for example, in the thick part of the thigh, in the bones, in the foot, knee-joint, sacrum. The painful spot is sometimes so sensitive that the least touch cannot be borne; in other cases severe pressure diminishes the pain. At the acme of the pain the patient dare not move, and when taken in the street he may sink down. In most cases the pains are severest in the sacrum and lower limbs, beginning at the foot or big toe, ascending to the knee, thigh and to the other side, or they may set in at either place. They may remain localized at the point of starting in their greatest severity.

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Their intensity varies; in some cases they are moderate, so that the patient considers them "his old rheumatic tormentors;" in other cases they are of such severity that the patient can hardly bear them. In the upper extremities they are hardly ever so severe, being usually only a dull pressing-tearing sensation in the muscles and joints, or a fine painful drawing in the fingers; exceptionally we may also find the electric shocks and boring pains in the upper extremities.

On the trunk we find the sensation of a cord tightly drawn around the waist, a sensation of constriction combined with anguish, oppression and heaviness in the pit of the stomach. It may be seated higher up in the chest or lower down around the navel, with the sensation of fulness and flatulence after a meal. Descending still lower we find painful pressure in the rectum and bladder.

Other abnormal sensations are less frequent and less important. Formication is especially felt in the feet and tips of the fingers, sometimes also in the sacrum. More frequent is a sensation of coldness, especially in the feet and legs, with objective coldness of the cutis, so that the patients like to be wrapped up. Again, there is a sensation of deadness observed under the soles and in the hands. The patients complain of the sensation as if their feet were enveloped in furs, as if they stepped on blankets or heavy tapestry, as if the ground would give way under them; their hands feel as if they were too thick and covered with gloves.

Objective symptoms of sensibility are: (*a.*) Hyperæsthesia combined with anæsthesia; pricking of needles; pressure of the skin, of the muscles and bones; they feel very painful, when at the same time to the touch the sensation of pressure of the muscles is greatly weakened. Or there may be a relative hyperæsthesia; patients are not sensible of moderate stimuli, but suffer pains from stronger stimuli. (*b.*) Anæsthesia; intelligent patients observe that their finer sense has decreased, that they do not feel normally with their hands and feet, that in the dark or in bed they fail to know where their limbs are. (*c.*) Partial paralysis of sensation; with high-graded anæsthesia the sense of temperature remains intact. Patients who do not perceive strong pressure or

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pinching, feel clearly the touch of a metal. In fact Nothnagel considers this appreciation of difference of temperature of importance, as the surface of contact is pretty large, and the exquisiteness of the sense of temperature very fine whenever it approaches the temperature of the skin. Eigenbrodt led our attention to apselaphasia or paralysis of the sense of pressure. Though the patients have good sensibility still for localities and temperature, they show no feeling when a weight of five to ten pounds is put on their feet or removed therefrom. We may in reality conclude that the loss of sensibility is not alike for all qualities of sensation. (*d.*) Retarded conducting power; this retardation of a few seconds is more often observed on the feet than on the hands, and weak stimuli show a greater retardation than strong ones. They feel the touch, and only after a few seconds the pain. In other cases the patients find it impossible to differentiate the time elapsed between two rapidly following stimuli, and they recognize them only as two when the interval is greater than the time of retardation.

3. *In relation to the sphincters* it may be mentioned that the bladder suffers early. The patients lose the sensation of the inclination to pass water, and, especially at night, some drops of urine may escape involuntarily. In other cases the desire to urinate is so frequent that they must hurry themselves, else it may pass off involuntarily. Tenesmus urinæ is rare. Intensive disturbances of micturition are only observed in far progressed cases, and incontinence follows, but the urine is hardly ever fully discharged, especially where the patient is obliged to keep the bed, and cystitis and pyelitis may be seen during the last stage. Still more rare is paralysis of the sphincter ani, and incontinentia alvi happens only late. More frequent is a painful tenesmus, especially after stool, and continuing for some time. Retarded defecation is frequent.

4. *Sexual Organs.*—Male impotence is the rule in fully developed cases; in lighter cases procreation may be in good standing and tabetic patients may beget children. In females menstruation remains regular, and even pregnancy may take place, although conception remains the exception and menstrual anomalies are frequent.

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5. *Symptoms in Relation to the Senses.*—Contraction of one or both pupils with diminished motility; strabismus convergens (paralysis of abducens) or divergens (paralysis of oculo-motorius), the latter with imperfect ptosis and dilatation of the pupil. The appearance of the diplopia often reveals a long-standing latent ataxia, as thus the security in motion becomes disturbed, and it proves that the sclerotic process ascended from the lower parts of the cord to the medulla oblongata. The imperfect paralysis of strabismus may retrograde, which is hardly ever the case with the more grave complication of amaurosis, a sclerotic atrophy continuing from the posterior columns to the opticus, and the compensation which the ataxia enjoyed by the sense of right ceases. The affections of the other senses are more rare, although difficulty of hearing and deafness were several times observed.

6. *Affections of other Cerebral Nerves.*—Unilateral facial paralysis, but of a transitory character, has been met with. It is questionable whether paresis of the hypoglossus with difficulty of speech and deglutition is ever present.

7. *Psychical functions* remain intact. Many patients resign themselves good-humoredly to their fate, others are morose, irritable, melancholy. Tabes dorsualis may combine itself with progressive paralysis of the insane, sometimes at such an early stage as when the lancinating pains divulge the special affection; in other cases after the disease had existed for years. In the former case the symptoms of ataxia often recede, and the mental complication may render the diagnosis rather more difficult. The autopsies of such cases often reveal far more extensive degeneration of the posterior columns than could be supposed from the symptoms during life. In two cases an acute delirium was noticed, passing into a typhoid state, sopor and death.

8. *Trophic Manifestations.*—The most important are cystitis and decubitus, so often met with in other spinal diseases, but only observed here in grave cases that have been fully confined to bed for a long while. In some rare cases herpetic, lichenous and pemphigoid exanthemata were noticed; prurigo and herpes zoster are still more uncommon. As the integrity of the motory apparatus and electrical irritability is characteristic of this dis-

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ease, the nutrition of the muscles does not suffer; but by-and-by they become weaker and relaxed from non-use. Where muscular atrophy is demonstrated, we may suppose a coaffection of the anterior gray cornua, with atrophy of the ganglionic cells. The joints may also suffer. The whole vicinage of the large joints may be more or less swollen, the swelling being white, level, without local rise of temperature and painless; in other cases we may meet hydrarthrosis.

9. *General nutrition* does not suffer directly from this spinal affection. The face looks blooming, the adipose tissue abundant, the muscles act well. Only when severe complications set in, especially cystitis, decubitus or other grave complicating diseases, the patients succumb. Continual severe pains, taking the patient's sleep and appetite away, may also derogate from his well-being.

10. *Other functions*, as circulation, respiration and digestion do not suffer directly from the spinal affection, and preserve their normal activity; still Charcot mentions that most patients exhibit an abnormally increased frequency of the pulse, perhaps from the decreased tension of the pulse in ataxia. In the respiratory apparatus we may meet rough, paroxysmal cough, similar to a hooping-cough, followed by congestions to the skin, brain and organs of sense, the bulbi protrude and involuntary discharges may take place; finally sweat. Gastricism is frequent, consisting in gastralgia, vomiting, anorexia, constipation. There is no local affection of the stomach; the paroxysms are decidedly of a nervous nature.

Development and Course of the Disease.

In most cases the disease develops itself imperceptibly and runs a steady, progressive course. A typical course would show as first symptoms neuralgic pains in a foot, knee or the sacrum, continuing for some time with severity, then passing off and returning again after a free interval. Such attacks last several hours or several days, and may be of such violence that the patient remains motionless in bed. Gradually the pains spread, pass from one extremity to another, and combine themselves with

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the sensation of constriction. Sooner or later the upper extremities participate. This first or *neuralgic stage* may last for several years, and is of changing intensity and duration. Towards its end disturbances of motility set in. The patient becomes easily tired when walking, dancing, etc., and feels insecure in the dark. Sometimes he feels as if he walked on velvet, fur or sand. *The second or ataxic stage* begins with diplopia or strabismus; the peculiar gait, the throwing forward of the legs, becomes more perceptible; the patient carefully follows with his eyes every movement of his legs; in the dark and with closed eyes he is in danger of falling; the pains continue from time to time; urinary troubles appear; the impotence is nearly perfect. The ataxia increases, the patient needs some outside help when walking, and disturbances of sensibility are clearly expressed. The disease verges now into the *third or paralytic stage*, the muscles of the extremities become highly atrophied, the toes curved, and cystitis, decubitus, etc., set in.

Ætiology.—Cold; suppression of footsweats; excesses in venery; syphilis; hereditariness; mental emotions, especially fright; the male sex more than the female; middle age.

Diagnosis.—Progressive locomotor ataxy is a chronic disease, accompanied by electric pains shooting with lightning-like rapidity from the spinal region towards the extremities, by the sensation of constriction, like a cord, around the stomach, with disturbed sensibility, especially of the muscles, whereas the motory apparatus is nearly perfectly intact. The diagnosis becomes more difficult where the ataxia is wanting, for chronic meningitis, disseminated neuritis, even chronic myelitis (sclerosis), may give a similar complex of symptoms, but the eye symptoms (strabismus and atrophy of the opticus)with the other symptoms are hardly ever found in any other disease. *Acute ataxia* arises without the prodromal neuralgic pains, and develops itself fully in a few weeks. Disturbances of sensibility, so characteristic of the chronic form, may be present, but are frequently absent. Its course is not progressive, and cures are possible. The gait may be similar, but it is not analogous to chronic ataxy. In *multiple (diffuse and disseminated) sclerosis* motility is always affected (weakness, trembling, palsy, emaciation, rigor), ataxy is rare, and disturbances

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of sensibility unimportant or absent. In multiple sclerosis speech is frequently affected, in tabes hardly ever. *Chronic meningitis* (pachymeningitis, neuritis ascendens) may in relation to the pain show some similarity to tabes; but we rarely meet the sensation of constriction, and disturbances of sensibility are not often observed. We may find weakness in regard to motility, but ataxia does not follow chronic meningitis.

Prognosis.—In regard to a restitutio ad integrum the prognosis is bad. We must be satisfied with a mere amelioration, and we do well where we succeed in bringing the disease to a stand.

The *Morbid Anatomy* of progressive locomotor ataxia consists in an increased proliferation of the connective tissue, the neuroglia of Virchow, the cement, as it were, which binds together the fibres and cells of the posterior columns of the spinal cord. The nerve-fibres and ganglionic cells become atrophied and finally disappear.

The Therapia of the old school discards nowadays bleeding and cupping in this disease, nor does it think more favorably of mercurials or the Iodide of potash. Secale cornutum, Strychnine, Arsenic and cod-liver oil have failed in their hands to bring relief. Wunderlich praises Argentum nitricum (1 centigr. three times a day in pills, but for weeks), but others do not affirm its curative power, nor did they succeed better with Auro-natrium chloratum. Most physicians hope the most from warm baths, and even indifferent springs (Teplitz, Wildbad, Ragaez, Gastein, Plombières, Eaux-Bonnes) enjoy a great reputation. They are most suitable for cases characterized by irritation, especially neuralgic pains, vesicular and intestinal troubles, general nervosity, sleeplessness. The baths must be mild; the patients must not bathe every day, and fifteen to twenty suffice. At home the patient may take Turkish baths. Hydrotherapeutics may be carefully tried, and the same may be said of sea-bathing, which is suitable only for old and torpid cases during the hot summer season. Electricity must not be abused; neither the constant nor the induced current suits hyperæsthetic forms, but in torpid and anæsthetic cases electricity works well. Where we intend to act on the cord and nerve-trunks the constant current above all others is indicated. With the induced current we produce

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a strong stimulus on the peripheral cutaneous nerves and on the muscles. The strength of the current must be measured by the effect; the indication of muscular stimulation is found in the emaciation and laxity of the muscles. The general regime is of importance, and we must try by every means to keep up the good spirit and the hope of our patients. All these patients are very sensitive to atmospheric changes; they feel worse during the equinoctial season and in winter. Muscular motion is necessary to their well being; we must try to keep our patients out of bed; they must walk, even with crutches. They are not worse off when travelling, and they ought to be encouraged to do it. Massage must not be neglected, and never does harm.

B. *Chronic Myelitis, as Sclerose en Plaques de la Moëlle Épinière; Sclerose en Plaques Disseminées; Diffuse Multiple Sclerosis* (*Cerebro-spinal Sclerosis*).—Charcot and his disciples taught us that sclerotic foci are disseminated over the whole nervous system, in the brain, cord and sometimes also in the peripheral nerve-trunks. The size of the foci changes, but no one focus prevails to such a degree that all the symptoms could be brought home to it alone. In the brain they are mostly found in the crus, in the corpus callosum, in the lining membranes of the ventricles, more rarely in the cerebellum. There may be several small foci in the pons; the medulla oblongata and the spinal cord may have them diffused in different sizes all through their length.

a. Symptoms of Motility.—1. *Paralytic Symptoms.* Motility is disturbed over nearly the whole muscular system, but total or high-graded paralysis is rare. The upper and lower extremities, head, tongue and eyes may be affected. Most conspicuous and frequent are the functional disturbances of the lower extremities; less so the upper ones. Frequently one side is more affected than the other. The muscles of the trunk may participate, so that the patient cannot stand up, and sitting down becomes nearly equally impossible. Spontaneous motions are possible, but they are weakened in their energy and endurance (paralytic debility). *The motions are trembling, intermissive,* and must not be confounded with the trembling of paralysis agitans. Here, in multiple sclerosis, the trembling only *appears during intended motions, and ceases as soon as the muscles are at rest,* whereas in

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paralysis agitans the trembling continues during rest. Charcot considers this symptom characteristic of cerebro-spinal multiple sclerosis. The upper and lower extremities, as well as the head, partake of this trembling. In the lower extremities we meet it especially when one motion passes into another, or one position into another, as at the beginning of a walk, when rising or sitting down, and it ceases during a symmetrical gait or when standing, and it appears more easily and severely when the muscles are tired out, and may be called out by reflex irritation, when it may increase to severe convulsive concussion of the lower extremities (Brown-Séquard's *epilepsie spinale*). The precision of all motions is disturbed in the upper extremities by the tremors, but, in contradiction to chorea, we see here that the direction of the motion is kept up in spite of the tremor. Writing becomes difficult. Finally the head begins to tremble, especially when the patient sits quietly and the extremities are at rest, the muscles of the head and neck are then in continuous voluntary motion, with the staggering starting character of sclerosis. Nystagmus may be considered an analogue to this trembling, and the disturbance of speech exhibits also more or less of the intermissive character.

2. The *disturbances in the visual apparatus* consist in diplopia, amblyopia and nystagmus. The diplopia consists mostly, as in tabes, in an imperfect paralysis of one of the muscles of the eye, is never of a high grade, is mostly transitory and is found sometimes at a very early stage of the disease. The amblyopia is a frequent symptom of diffuse sclerosis, from sclerotic foci in the optic nerve, and the ophthalmoscope reveals atrophy (white mother-of-pearl color of the disk, with great attenuation of the bloodvessels, especially of the arteries). It never leads to perfect blindness. Nystagmus is observed in about half the cases, and may exist alone, or with diplopia and amaurosis.

3. *Disturbance of Speech.*—The speech is dragging, slow, difficult to understand; the words come out with difficulty, sounding interruptedly; between each syllable there is a pause, and the syllables are pronounced slowly. It is not a stammering. Some consonants, b, p, g, are very badly pronounced, and still the tongue shows no abnormity in its motor functions; they may

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be somewhat heavy and slow, but rarely trembling, and free in every direction; the muscles of the tongue exhibit no fibrillary twitchings, no atrophy, and deglutition is unimpaired. Such a disturbance of speech is similar to that met with in progressive paralysis of the insane. There are also peculiar spasmodic fits of laughing or crying, of sighing and yawning, passing the one into another without any cause. Where paralysis of the tongue and of speech with difficulty of deglutition and expiration sets in, we may expect rapid aggravation and even death.

4. *The gait* is usually heavy and unsafe; the patient walks slowly, tires easily; he drags his feet on the ground; the knees are hardly flexed, and, in stepping strongly, bent backwards. The patient walks with difficulty, keeping his head high, and body bent somewhat backwards. In grave cases walking is impossible, or they can only make a few steps by supporting themselves with both hands on some piece of furniture. When tired, or when attempting to rise or to sit down, they suffer from clonic twitching convulsions. Such patients suffer from ataxia, inasmuch as they have no power over their motions, which are twitching and intermissive; incapable of keeping balance; they stand well enough when supported, but fall down when left to themselves; opening and shutting the eyes, however, is without influence. The cause of it may be a morbid state in the centres of coördination, in the pons and medulla oblongata (perhaps also in the cerebellum), although the spinal cord may also participate.

5. Atrophy of the *muscles* is rare, and only found where a sclerotic focus extends to the gray substance, with atrophy of the ganglionic cells. Electrical irritability is usually very little altered, but may be greatly diminished in high-graded atrophy. Rigidity of the muscles of the upper and lower extremities occurs far more frequently, and may remain limited to some groups of muscles, as the flexors of the thigh, the adductors. Such muscles show a rigid, tough resistance to passive motions, increasing by repetition. The same happens in spontaneous motion, so that the rigidity increases with every step, the gait becomes stiff, dragging and finally impossible. The rigid muscles feel tough, even hard, when at rest; they are sometimes slightly

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atrophied, and show increased electrical irritability. Contractions are developed during later stages of the disease, at first transient, then permanent. Spasmodic attacks may precede these contractions, whereby the lower extremities become stiff in extension, and remain for several hours or days in that position. At first it is mostly a contraction by extension, but after awhile flexion prevails, so that the heel nearly touches the nates. Such contractions are mostly met where considerable foci are in the dorsal portion of the cord. Contractions of the upper extremities are more rare. Reflex irritability may be at the same time increased. By taking the end of the foot in the hand and stretching it toward the leg, we see immediately the whole extremity in convulsive trembling, which may pass over the whole body and shake the bed. Brown-Séquard showed that we can stop it immediately by taking hold of the big toe of the patient and flexing it forcibly (clearly reflex inhibition).

b. Symptoms of Sensibility.—The subjective symptoms are neither of great intensity nor of great importance. From time to time the patients complain of a deadness in the paretic extremities, sometimes of radiating pains, streaking off like lightning. Very rare is the sensation of constriction, as of a cord round the chest. Objective symptoms are not many; here and there there is some anæsthesia of an extremity.

c. The *sphincters* are rarely affected, and sexual functions in both sexes are undisturbed.

d. Of *trophic phenomena* we have the atrophy; some herpetic, lichenous, pemphigous exanthemata; the phalangeal joints swollen; abnormities of the nails, which become fissured and pigmented; the hair may grow luxuriously or alopecia set in; œdema is rare; more frequently there is a fall of temperature in one extremity with enormous sweating.

e. Gastric attacks, with palpitation and dyspnœa.

f. Cerebral symptoms are manifold. The mildest and earliest are headache and vertigo of varying extent and intensity, on the vertex, occiput or forehead, sometimes only on one side, in paroxysms and with bilious vomiting (crises gastriques). The dizziness may indicate the beginning of the cerebral affection; it is usually a rotary vertigo, and the patient feels as if everything

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were turning round with him, and fixes himself firmly on any object so that he does not fall; it comes in paroxysms and is not constant. Of psychical symptoms an obtuseness of mind, apathy and a constant change of disposition without motive are observed. At a late period we meet mental paralysis with melancholy or mania de grandeur, a relatively frequent sequel of multiple sclerosis; other psychical disturbances as, *e. g.*, lypemania with hallucinations, may be mentioned.

g. Apoplectiform Attacks.—The invasion is sudden, without decisive prodromata, with more or less loss of intelligence, hardly ever with full coma. Sometimes there are convulsions, mostly unilateral. The attack is followed by hemiplegia with relaxation or rigidity of the palsied extremities. These symptoms may cease in a few days, and the hemiplegia may pass off without leaving a trace; in rare cases extensive decubitus sets in, leading to death. One attack is usually followed after awhile by other ones, and after such an assault an aggravation of all symptoms may be expected. Temperature during the attack, 40° to 42.5°.

The disease develops itself slowly. Sometimes it sets in with cerebral symptoms (vertigo, diplopia, nystagmus, difficulty of speech, tremors and paresis of the extremities) or the spinal symptoms appear first, consisting for months or for years only in a weakness (paresis of the lower extremities, with tendency to extend to the upper ones, and absence of any disturbance of sensibility, of muscular atrophy, and with intactness of the sphincters). Its further course is chronic, with remissions and intermissions. Charcot divides it into three stages; the first from the appearance of the first symptoms to the time when the spasmodic rigidity of the extremities renders the patient nearly incapable of following his occupation. The second stage takes in the long period of years where the patient can hardly walk at all, or is totally bed-ridden, but his organic functions remain intact; all the symptoms of the past stage are increased, spasmodic contractions of the extremities, with or without spinal epilepsy, set in, and impossibility of walking. Contractions set in two, four or six years after the development of the first symptoms. In the third stage we meet general disturbances, nutrition suffers and death may be expected. At last loss of appetite and obsti-

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nate diarrhœa appear, and emaciation follows. All symptoms get worse, and dementia becomes manifest. The sphincters are paralyzed, cystitis and decubitus develop themselves, and pyæmia or any intercurrent terminal disease, pneumonia, tuberculosis, dysentery, hasten the fatal end, or bulbar paralysis with paralysis of deglutition and respiration may be inserted as the cause of death.

Ætiology.—Women are more frequently attacked than men. Adolescence and early manhood, the age from fourteen to forty, is more disposed to it. Heredity, a moist atmosphere, concussion of the body, mental depressing emotions, or preceding acute diseases may lead to it.

Prognosis is unfavorable. We must be satisfied with temporary amelioration.

Morbid Anatomy.—The membranes of the brain are sometimes opaque in patches, and occasionally contain an abnormal amount of serous fluid. The cerebral convolutions are occasionally flattened, and the gray substance is thinner than in the normal condition. On cutting into the tissue of the hemispheres, plates or nodules of hardened matter are found scattered throughout its extent. These are well defined and vary in size from that of a cherry-stone to that of a small walnut. Their color is white or grayish-white, and they are of varying degrees of consistency. It is, again, a hypertrophy of the neuroglia at the expense of the nervous tissue proper.

2. *Spinal Form of Multiple or Diffuse Sclerosis; Chronic Myelitis.*

We have, as in acute myelitis, different forms which may combine together or pass one into another. 1. Sclerosis (chronic myelitis) of the dorsal part. 2. Sclerosis of the cervical part. 3. Sclerosis of the bulbus (chronic bulbar paralysis). 4. Diffuse sclerosis. 5. Peripheral sclerosis (chronic myelo-meningitis).

General Symptomatology.—a. Disturbances of Motility. They generally begin in the lower extremities, and may be limited to them during the whole course of the disease. Sometimes the upper extremities are the first attacked; but even where the foci are

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situated high up it mostly begins in the lower extremities, and they suffer most. The most important phenomenon is the *paralysis*. It is a genuine motory paralysis with decrease of power, with inability to perform the functions on account of the tired sensation which soon sets in. Paraplegia prevails, mostly with slight coaffection of the arms, which may sometimes remain entirely free. In exceptional cases one leg may be more affected than the other, or there may be even cases hinting at hemiparaplegia. Hemiplegia spinalis has also been noticed, but we hardly ever find the other side perfectly intact. General paralysis of three or of all four extremities, and, where the medulla is also affected, a bulbar paralysis, has been recorded in our literature. The intensity of the paralysis may vary, but total paralysis is only witnessed in very grave cases and during late stages. The lighter forms prevail, as the sclerotic process hardly ever attacks the entire section, the nerves hardly ever perish in their totality, and especially the sclerotic and hypertrophied axis-cylinders remain (Charcot). In regard to muscular motion, it differs from ataxia by its slowness and clumsiness. Where the power of each solitary motion is still considerable, it appears clumsy; every motion is an exertion for the patient, who feels as if his extremities were leaded or weights were attached to them, nor can he repeat the same motions as rapidly as a healthy person; the fingers refuse to perform finer motions, and writing and playing on instruments becomes difficult. Nor can the patient perform so easily isolated motions. To this clumsiness tremors may be added, but never so exquisitely or extensively. This tremor may be seen in the lower extremities when the patient changes his position, when he rises or sits down or stands still after walking. It is sometimes convulsive, concusses the whole body, but soon passes over. Mostly (not always) it is combined with electrical and reflex irritability, and passes over in the exquisite forms of spinal epilepsy. *Rigidity of the muscles* is frequent. The muscles feel hard to the touch even at rest, whereas they remain soft during exertion like a healthy muscle. In passive motions there is a peculiar resistance, giving the sensation of stretching a tough mass. The intensity of this sensation changes not only according to the different cases, but also according to

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the different muscles of the same patient, and finally at different times in the same muscles. Sometimes the resistance is easily conquered, at other times with difficulty. Sometimes the muscles become hard during spontaneous or passive motion, and nearly always the tension is increased by quick repetition of the same motion. It is most often observed in the adductors and extensors of the thigh; in rare cases of diffuse sclerosis it may attack the whole muscular system. The rigid muscles are usually well nourished, but rigidity appears also in atrophied ones. Contracted muscles are frequently rigid. We may easily perceive that this rigidity must exercise a great functional influence; the movements thus become clumsy, stiff, slow and dragging, as the excursions are only slight, especially as the tension increases from the very beginning of the motion, intensifying by the exertion, so that finally walking is nearly impossible. Hence the clumsy dragging gait differs materially from that of an ataxic patient. The feet are hardly raised from the ground; they are dragged forward, the steps are short, the patient supports the intended motions with the body, *e. g.*, in contraction of the adductors with the pelvis. Where the whole leg is stiff, he bends the whole trunk backwards, raises his toes to remove the foot from the ground; but he only succeeds imperfectly, the foot drags and the toes knock against everything, and he may fall down if not supported by a cane. Walking tires him out; he can hold out far better when standing or sitting. As he gets worse he can hardly stand up, and when walking he has to hold fast to some piece of furniture. Finally walking and standing become impossible. In such intensive cases *permanent contractions* take place, most frequently in chronic myelitis of the dorsal cord, where the adductors and quadriceps become contracted. In very severe cases the hip and knee-joint are so much flexed that the heel touches the nates. The contracted muscles may become hypertrophied. Reflex irritability is also increased, especially where intensive foci are situated above the lumbar intumescence, which yet remains free or not severely affected. We have then all the well-known conditions setting in when pinching or irritating the soles of the feet, or we may have *convulsive concussions* in severe paroxysms, produced by rough tension of the muscles

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or sinews. The electrical irritability of the muscles is mostly normal, sometimes increased with simultaneously augmented mechanical irritability, or decreased and entirely gone in some particular muscle where atrophy prevails. *The nutrition* of the muscles remains in many cases intact, notwithstanding the great debility, but slight atrophy is also met with. We often find one extremity or some groups of muscles more atrophied than others. Extended atrophy of the muscles is more frequent in diffuse sclerosis.

b. Symptoms of Sensibility.—Exquisite painfulness is hardly ever present in sclerosis of the cord. Pains are never so intense nor so important and various as the motory symptoms. (*a.*) *Spinal pain.* A fixed pain corresponding to a sclerotic focus is rare. More frequently the pain changes its place. More frequently it may be found fixed on the sacral or lower dorsal region, between the shoulders, corresponding to the cervical intumescence. The vertebræ are hardly ever sensitive to pressure, percussion, or touch with the hot sponge. Even where pain is present it is never severe nor continuous. (*b.*) *Sensation of a cord around the chest,* corresponding to the seat of the greatest focus, is found here as well as in sclerosis of the posterior columns. (*c.*) *Excentric neuralgic pains,* similar to those of tabes, may be present; they are not constant, but very frequent; their intensity is moderate, only in some exceptional cases severe enough to disturb the sleep and to cause moaning; though paroxysmal they are always worse in damp weather and winter. (*d.*) *Sensation of formication, of deadness, of coldness and stiffness in the extremities,* more rarely a sensation of itching and burning or heaviness in the muscles. The patients are easily tired; in walking the feeling is as if weights were attached to the legs, so that they can hardly raise them up. The sensation of stiffness is worse in the morning and after sitting for a long while, better from motion, though overwork will bring it on again.

Objective symptoms of sensibility can hardly ever be shown. Sometimes we observe, post-mortem, the posterior columns diseased. We can sometimes make out a difference by comparison with the other side or with healthy parts. High-graded disturbances of sensibility appear in intense forms with high-graded

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paralysis, usually on the lower extremities, with paraplegia and contractures; in rare cases the cause may be sought for in an unusual mode of extension of the process. Hyperæsthesia has also been observed in the lower extremities. Charcot describes a dysæsthesia, where stimuli brought on the skin produce a painful sensation; the patient compares it to a kind of vibration running through the entire extremity (in compression and myelitis transversa).

Rectum and bladder are only found affected in very severe cases, where cystitis and decubitus may set in. Sexual function is only diminished in severe cases. Menstruation may remain regular, but this is not always the case; pregnancy may run its normal course. Trophic symptoms were observed in sclerosis stricte sic dicta as well as in multiple sclerosis.

The Course of the spinal sclerosis is either subacute or acute, with apoplectiform symptoms, or evenly progressive from slight beginning to important symptoms, with remissions and aggravations. The first symptoms are nearly always observed in the lower extremities; after awhile the upper ones participate, but never in a high degree. Exceptionally the upper extremities may be the first affected; the symptoms are intense, and the lower extremities suffer less. In other cases the process may extend to the cervical cord and medulla oblongata, and from coaffection of the respiratory centre life may be endangered and death ensue. It may even ascend to the brain, and then we have to deal with the cerebro-spinal form. The disease may also run a descending course, so that the arms are first attacked, but such a course is rare, although it does sometimes appear as if the spinal symptoms were added to the cerebral ones; in other cases the cerebral symptoms pass off, and the purely spinal form develops itself. The disease may last many years; the progress may be so slow that the patients reach their allotted time of life. Even cases of great extent and intensity last several years. Death happens mostly from intercurrent diseases, or by extension to the medulla oblongata, or by cystitis and decubitus.

Prognosis generally is more unfavorable than in ataxy. Sclerosis is an incurable process, and compensation of the functional disturbances as in tabes can hardly be expected. Sometimes we

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may succeed in keeping the process in abeyance, or some amelioration may set in as the patient becomes stronger. Where the symptoms of palsy have existed for a long time, there remains very little hope. Long-standing muscular atrophies are seldom much ameliorated; we may be more hopeful with fresh ones. The slower the progress the better the prognosis.

Diagnosis.—(1.) From *ataxy.* The typical form of both diseases differs essentially in the mode of their disturbance of motility, but there are cases of gray degeneration of the posterior columns where the ataxia is hidden, the muscles atrophied, and thus the diagnosis is more difficult. The development and intensity of the sensory disturbances and hints of ataxia may help us in our decision. (2.) From *progressive muscular atrophy and paralysis bulbaris.* Far progressed cases of sclerosis of the cervical part or of diffuse sclerosis give similar symptoms, but in the one the atrophy joins a long-standing paralysis, in the other the atrophy begins and progresses with the disease. Progressive muscular atrophy is a primary atrophy of the muscular apparatus; sclerosis an interstitial process destroying only gradually the ganglionic cells. (3.) From pericentral sclerosis of the central canal with syringomyelitis, a differential diagnosis is not impossible, as this disease develops itself slowly and causes symptoms similar to an insidious chronic myelitis. (4.) Atrophic paralysis of grown persons differs by its acute development, rapidly appearing atrophy, its stationary course and its exclusive limitation to motility. (5.) Residua of acute cases of myelitis show a stationary course after a primary acute one.

Treatment.—The same as in tabes. Mineral springs and electricity furnish the most hope, and patients feel strengthened after strong currents and stand energetic treatment well.

Special Symptomatology.

a. Sclerosis of the dorsal cord affects the lower extremities with motory debility or palsy. We have here the tremors, the stiffness of the muscles, the staggering gait. The paralysis is worse according to the intensity of the disease, so that walking becomes impossible, and with the tremors and spasmodic fits per-

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manent contractions set in so that the patients can only remain in a chair or in their beds with drawn-up knees. The upper extremities are only slightly affected, with perhaps drawing pains or sensation of heaviness and of becoming easily tired, but their function is hardly disturbed, and the patients can write nearly as well as ever. Sensibility and the sphincters suffer according to the intensity of the disease. Nutrition of the muscles may remain intact, but we meet partial atrophy where contractions prevail.

b. Sclerosis of the upper thoracic part distinguishes itself by coaffection of the upper part, but it never reaches such a degree as in the lower extremities. Mostly the paralysis begins in the lower extremities and attacks only at a later period one or both arms, when there is complaint of dull pains, clumsiness and weakness. The lower extremities show unequal symptoms of paralysis; their nutrition mostly remains intact, electrical irritability is preserved and reflex irritability increased. Only where a focus established itself in the vicinage of the lumbar intumescence irritability suffers, and the nutrition of the corresponding extremity declines, the muscles becoming atrophied. Reflexes are frequent.

c. Myelitis Chronica Cervicalis; Sclerosis of the Cervical Cord.—Here we may find a coaffection of the medulla oblongata, which endangers life and threatens a fatal issue. The first symptoms also begin here in the lower extremities, which feel weak and unable to perform their functions. Soon the upper extremities participate intensively and extensively, with muscular atrophy of the upper extremities, proving that the process has extended itself to the gray substance of the cervical intumescence. The lower extremities retain their function, with imperfect paralysis and electrical irritability, and the brisk reflex irritability evinces a relative integrity of the lumbar part. Muscular rigidity with contraction or extension are also here observed. After awhile permanent contractions and muscular atrophy in the lower extremities prove an extension of the sclerotic process to the lumbar intumescence. The sensory symptoms consist in radiating pains, electric twitchings, anæsthesia of changing intensity. During its further course symptoms appear pointing to a partici-

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pation of the upper cervical cord, even to the medulla oblongata. The muscles of the shoulders and neck become weak, traces of lingual paralysis set in, the tongue feels heavy, speech is slow, deglutition becomes difficult, and finally respiratory troubles appear and the patient succumbs. Such an extensive, diffuse, but mostly interrupted chronic myelitis, with excessive progress in the cervical and upper dorsal part, offers a picture very similar to the bulbar paralysis of progressive muscular atrophy; the same helplessness, the same extension of paralysis to all extremities, integrity of sensibility, and symptoms of bulbar affection with paralysis of respiration. The difference lies in the muscular atrophy, which appears late in sclerosis, and is never of great extent; we have mostly paralysis with slight atrophy; on the contrary, in progressive muscular atrophy this atrophy with its fibrillary twitching is the primary and characteristic symptom lasting all through the disease; the functional disturbances are only added to it, and never lead to a full paralysis; we have muscular atrophy without paralysis. This difference also corresponds with the anatomical process; in progressive muscular atrophy we meet a degenerative atrophy of the motory apparatus; in sclerosis a chronic inflammatory interstitial shrinking process, causing primarily paralysis, and only gradually, by attacking the gray substance, muscular atrophy.

d. Sclerosis of the Bulbus; Paralysis Bulbaris.—Isolated sclerosis of the bulbus is very rare; more frequently we meet sclerotic foci in the medulla oblongata as a participation, which may even combine themselves with similar foci in the pons. They are often so small that they can only be recognized by the microscope, and their seat mostly peripheral, in the corpus restiformia, the pyramids, and very often at the base of the fourth ventricle. Here we meet the peculiar disturbance of speech, the peculiar spasms of laughing and weeping, and some atactic manifestations or functional disturbances analogous to progressive paralysis bulbaris, with paralysis of speech, deglutition and respiration.

e. Diffuse sclerosis exhibits great extension of the process over nearly the whole cord, without losing the characteristic dissemination. Not only paralysis everywhere, but also a diseased state of the substance of the cord are present. Paralytic weak-

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ness and paralysis, contractions, atrophies, radiating pains and anæsthesia are extensive.

f. Peripheral Sclerosis; Sclérose Corticale ou Annulaire.—The symptoms of this form, first described by Vulpian, are not yet written with necessary precision.

3. *Symmetrical Sclerosis (Gray Degeneration) of the Lateral Columns.*

Bilateral disease of the posterior lateral columns as a descending secondary degeneration, develops itself as a sequal of bilateral cerebral disease. It shows all the anatomical characters of Türk's degeneration, runs the same course, the same extension, and in most cases we find no affection of the gray substance; bilateral degeneration of the lateral columns in consequence of affection of the spinal cord enters into a close connection with it, and is most frequently observed in consequence of compression of the cord, especially from caries of the vertebræ; it is also seen in connection with circumscript myelitic foci in the cord. It differs from the primary sclerosis of the lateral columns, which has been described by Türk and Charcot, and which runs its course without any cerebral affection.

Morbid Anatomy.—Gray degeneration of the lateral columns extends itself usually over the whole length of the cord, and takes the same course and the same expression as the descending secondary degeneration. It begins in the medulla oblongata with a sclerosis of both pyramids; from there the affection descends and passes through the pyramidal, crossing into the posterior lateral columns, having its greatest extension about the cervical intumescence, falling off in its downward course, and becoming very small about the lumbar intumescence. Simultaneously with the posterior lateral columns are also the internal sections of the anterior columns sclerosed.

Charcot divides the disease into two forms or stages; in one the affection remains limited to the changes of the white columns, in the other the gray substance participates, showing also sclerotic atrophy, and especially a strong pigmentation, diminution and partial consumption of the large radiating ganglionic cells

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in the anterior horns; whereas similar processes are not observed in the ganglionic cells of the lateral horns and in Clark's columns. Such an atrophy of the gray substance often finds an analogue in the nerve-granules of the medulla oblongata, whose cells show more or less exquisite atrophy. Peripheral nerves may also be seen atrophied, especially the exterior roots, in simultaneous co-affection of the gray substance. The muscles also show atrophy in different degrees, identical with that of progressive muscular atrophy, often with interstitial lipomatosis.

Symptomatology.—The disease begins in the upper extremities without fever; the patient complains of formication, of a sensation of deadness in the arms and fingers, followed by *motory paralysis.* After a little while the muscles begin slowly to become atrophied, but not in proportion to the loss of power, but the atrophy here attacks not only single muscles, but whole groups; it is in fact an atrophy *en masse.* Gradually *deformities* appear, *e. g.*, the hand is contracted in flexion, the forearm is half flexed; the muscles pain when we try to remove forcibly this flexed position. Sometimes a tremor attacks these palsied and atrophied extremities (which still retain some spontaneous motility) when they try to move them, corresponding to disseminated sclerosis. The muscles often show considerable rigidity, and the head sometimes becomes fixed and immovable in consequence of the rigidity of the cervical muscles. During the second stage, after two, six, nine months, the disease passes from the upper to the lower extremities, with formication and paresis. The paresis does not lead necessarily to atrophy, but the debility increases so much that the patient cannot walk without support. About this time a remarkable symptom develops itself, a *transient or permanent rigidity* of the muscles, which lose their voluntary motility, contracture spasmodique, mostly in extension, which may increase to tetanic stiffness, changing the lower extremities to perfect sticks, wherein sometimes a convulsive tremor may be observed. In the third stage we meet *paralysis bulbaris* (*paralysie labio-glosso-laryngœ*), which mostly ends with death.

In relation to progressive muscular atrophy, the relative rapidity with which the disease runs its course is remarkable. It hardly ever takes more than three years, whereas progressive

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muscular atrophy may last eight, ten, twenty years. During this period all four extremities are attacked with paralysis and atrophy. After a few months, or after a few years, the patient is obliged to keep his bed, and finally the process extends to the bulbus, which, according to Duchenne, is very rarely the case in progressive muscular atrophy. Heredity, which plays such an important part in progressive muscular atrophy, fails here to be proven. The age of 20 to 50 is mostly exposed, and women more than men. Getting wet and catching cold are, as usual, of ætiological importance. . Still we must not forget to mention that there will be hardly a case where one or the other symptom may not be wanting, especially the rigidity, the contractions, the tremors. In rare cases it might begin with the lower extremities, or even appear under the form of hemiplegia, or the atrophy may show itself before the paralysis, and functional disturbances be observed only in proportion to the atrophy.

RÉSUMÉ.

The symptoms of *acute myelitis* are: a chill followed immediately by high febrile excitement, pain at the seat of the lesion (but less severe than in spinal meningitis) which may be in the cranial prolongation of the cord, in the cervical, dorsal or lumbar region, and increased by the application of heat or cold or by pressure. The limbs below the seat of inflammation and the abdominal or thoracic muscles (sensation of constriction) are likewise affected with pains. We also meet cutaneous pains (formication, pins and needles, as if the limb were asleep, etc.), which are the more intense the more profound the anæsthesia is. Motility is affected at a very early period, at first only simple twitchings of the muscles, then paralysis below the seat of inflammation rapidly supervenes; in many cases also there is paralysis of the sphincters. In proportion to the palsy we also find atrophy of the voluntary muscles, both from want of use and from more or less involvement in the lesion of the trophic nerve-cells, marked depression of temperature in the paralyzed part, great predisposition to cystitis (alkalinity of urine) and decubitus with sloughing. At first exaggerated reflex power in the paralyzed part (excitation of pain in one part of the body by irritation ap-

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plied to some other part), or even spinal epilepsy, followed secondarily by a gradual abolition of reflex movements in the palsied limbs. Death within three weeks happens in most cases, or it passes into a chronic state, with *red and finally white softening* from primary myelitis, or the latter causes embolism or thrombosis, which produces softening of the spinal cord.

Chronic myelitis manifests itself as *progressive locomotor ataxia* with the marked symptoms: The patient first complains of weakness; of an increasing inability to perform certain muscular movements, dependent upon a diminished sensibility which really is first observed, especially tactile sensibility, which is markedly abated. We meet next, not a loss of motor power, but a loss of coördination, *i. e.*, an impossibility to coördinate the muscles, to bring them into harmonious action, and thus to execute with precision the various voluntary movements. Though all the voluntary muscles may become affected, we must bear in mind the fact that whilst some fibres in a given muscle are atrophied, others in immediate opposition may remain intact. The patient can neither walk nor stand with his eyes shut, nor can he place his feet upon small surfaces. We always find such persons in walking or standing separating their feet to a greater than normal extent. Where the lesion of the cord is above the origin of the brachial plexus coördination suffers in the upper extremities, and the patient is unable to manage his fingers and thus to perform any delicate action, especially without the aid of his eyes. We meet also retarded conducting power of stimuli, and several seconds may pass off before the brain notices the stimulus. Reflex power is generally notably increased, also electro-muscular contractility. Gastric and intestinal troubles as well as optic difficulties are frequently observed where the lesion is above the lumbar region. Finally, even after years, cystitis, decubitus or an intercurrent disease hastens to a fatal issue.

Duchenne divides tabes dorsualis into three stages, and adopts as the first stage the period of paralysis of the eye muscles, the degeneration of the opticus and the characteristic lightning-like pains. In the second stage we meet the disturbances of coördination, of the muscular and cutaneous sense in the lower, more

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rarely in the upper extremities. His third stage is that of general tabes.

Rosenthal accepts only two stages: First, that of *irritation with or without cephalic symptoms*, characterized by abnormal irritation and alteration in the motory, sensory and vegetative sphere, revealing themselves by possible oculo-motory palsy with diplopia, by the beginning of retinal changes, by mostly reflectory muscular spasms, and though the muscles momentarily may act well this power is soon exhausted, neuralgiæ and hyperæsthesiæ, febrile symptoms, excitement—but very little power—in the sexual organs, irritation of the stomach, bladder and rectum; arthropathies may also be observed during this first stage, which by some authorities is considered as only the prodromal stage. His second stage is that of *degeneration, of decay in motility and sensibility*, and according to the intensity and extensiveness of the morbid process the prognosis and treatment must vary.

It is astonishing to find so many authorities of great reputation differing as to the pathological state of progressive locomotor ataxia. While Leyden considers it one of the forms of chronic myelitis, Rosenthal denies this. It would seem that we deal not with a spinal palsy, but only with a paralysis of coördination, and it is not even yet decided what are the centres of coördination, and many good observers put these centres of coördination in the cerebellum and median brain, considering the fibres of the posterior columns only as the carriers of coördination. Bauduy (*Diseases of the Nervous System*, 312) inclines to look to the great sympathetic nervous system for the proper solution of this pathological riddle, and with Jaccoud he considers the disease a lesion of the sympathetic or trophic nervous system. "Acting upon this view and knowing the utter uselessness of all drugs as remedies in this disease, we place our trust in the galvanization of the cervical sympathetic, hoping by this means at least to arrest the progress of this direful malady; and in so doing our views are corroborated by the weighty authority of Althaus and Meyer."

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Multiple Sclerosis.—Leyden gives us here a cerebral and a spinal form of disseminated sclerosis, and Hammond subdivides the former into a multiple cerebral and a diffused cerebral, the latter consisting in a morbid proliferation of the neuroglia at the expense of the ultimate constituents of the nervous elements, encroaching upon them and leading to their gradual atrophy, the former, multiple sclerosis, involving several parts of the same ganglion and consisting of nodules or plates of sclerosed tissue scattered throughout its substance. In multiple sclerosis the seat of the disease is mostly circumscribed, whether it occurs in the brain or in the spinal cord, and the contrary is the case in diffuse sclerosis.

In the cerebral form the patient complains of rotary vertigo, diplopia, nystagmus, disturbance of speech (scanding, interrupted, slow utterance of words and even syllables), spasmodic fits of laughing and weeping, of yawning and sighing, trembling and paresis of the extremities; or the spinal symptoms introduce the disease with paresis of the lower extremities, gradually ascending to the upper ones, with an absence of any sensory disturbance, muscular atrophy or injury to the sphincters. This paretic weakness displays itself by tremors appearing only during motion and ceasing when muscles are at rest, whereas in paralysis agitans the tremors continue even during quietude of the extremities. The gait of such patients is clumsy and slow, and they cannot keep their balance without support. The disease may be divided in three stages. The first is from the appearance of the first symptoms to the period where the spasmodic rigidity of the extremities prevents the patient from earning his living. The second stage shows an increase of this rigidity to spasmodic contractions with or without spinal epilepsy. In the third stage nutrition suffers, digestion fails, obstinate diarrhœas prevail. Mental palsy, dementia, renders the patient a wreck of his former self. The sphincters become paralyzed, and the patient succumbs.

In the spinal form of multiple or diffuse sclerosis, the chronic myelitis par excellence, we miss the ocular phenomena, the disturbance of speech, the atactic motions, and often also the tremors, symptoms of characteristic importance in the cerebro-

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spinal form. Spinal sclerosis rather offers the greatest analogy to acute myelitis. We must have a genuine motory paralysis with diminution of strength, of functional power and of endurance, which may be paralysis, hemiplegia or hemiparaplegia, differing in intensity and extension. Muscular movements are clumsy and slow. Tremors may be observed in the lower extremities, when the patient changes his position or stands still after walking. Rigidity of the muscles is here exquisite and increased by motion. The gait is therefore clumsy, heavy, slow, dragging, and the patient uses the position of the trunk of his body in order to balance himself. Contraction in flexion follows, so that every active or passive extension becomes nigh impossible. Reflex irritability is increased, electrical irritability is normal or increased. Atrophy of solitary muscles may be observed, especially where the gray substance is affected, but never to such a degree as in posterior sclerosis. Changeable pains in the cord, not always corresponding to the sclerotic foci. Neither the constriction around the chest or abdomen, nor excentric neuralgic pains are constant, but the patient feels worse and more exhausted in damp cold weather. Neither defecation nor micturition are much interfered with except in intensive cases, where cystitis and decubitus is to be found. Sexual functions remain nearly normal. According to all authorities the prognosis is more favorable than in progressive locomotor ataxia, for the gray substance is hardly ever affected. Hammond thinks that the morbid condition depends either on atheroma of the capillaries and the formation of granular corpuscles in the degenerative tissue, or on degeneration and atrophy of a greater or less number of nervous filaments, or on proliferation of connective tissue which takes the place of the nerve-tubes. Many a good writer confesses to a loss of all confidence in drug-treatment and places his sole reliance in electro-therapeutics, using the primary galvanic current to the cord, and the same or the induced current to the contracted muscles.

Symmetrical Sclerosis (*Gray Degeneration*) *of the Lateral Columns.*—In the spinal cord it is often the sequel of caries of the vertebræ, and it has also been observed secondarily in connection with circumscript myelitic foci in the cord; but of late this sym-

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metrical sclerosis of the lateral columns has also been observed as a primary sclerosis, extending all over the cord and running the same descending course from the medulla oblongata downwards at the secondary degeneration of Türk. In opposition to Charcot, Leyden considers this affection a pure sclerosis of the glia leading secondarily to atrophy of the nerve-elements. We miss here the tremors, the rigidity, the contractions, and the paralysis precedes the atrophy of the muscles. In pure bulbar paralysis, on the contrary, the neuroglia is not much affected, but the nerve-substance atrophies primarily, and in its place we meet fatty granular cells.

Treatment.

As regards treatment by drugs, Bauduy echoes the opinion of the allopathic school when he says (*l. c.*, 319): "My faith in the efficacy of all remedies is weak, and beyond the judicious use of the continuous galvanic current applied to the brain, spinal cord and sympathetic nerve, I think all recommendations useless and simply empirical."

Does homœopathy offer any better resources, and is the recorded experience of our school more favorable in relation to prognosis? As to diagnosis, we cannot expect a precise one, when so much of the scanty knowledge we possess of spinal disease dates only a few decennia back, and even now we meet discrepancies everywhere when comparing the several authorities. It is therefore more advisable to keep strictly to the symptoms presented, to the causes which produced them, and take from the pathological picture the totality, thus enabling us to eliminate one remedy after another, till for the individual case a similimum is found.

Causes of myelitis acuta are trauma, compression, cold, overexertion of the body or mind, or both combined, concussion of the cord, severe mental alteration, especially anger and fright; of chronic myelitis, all varieties of dissipation and venery, heredity, suppression of footsweats, cold, mental alterations.

Traumata.—Arnica, Ammonium, Cicuta, Conium, Hypericum, Phosph., Rhus, Ruta, Silicia, Sulphur.

Concussion.—Arnica, Bryonia, Cicuta, Conium, Pulsatilla,

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Rhus, Sulphuric acid. (2.) Euphrasia, Iodine, Lachesis, Sulphur. (3.) Belladonna, Calcarea, Hepar.

Ill Effects of a Cold, from exposure to wet.—Calc. Dulc., Puls., Sulph. (2.) Ars., Carbo veg., Nux mosch., Rhus, Sarsap. (3.) Ars., Bell., Bry., Caust., Colch., Hep., Lyc., Phosph., Sep. By bathing. Ant., Calc., Carbo veg., Sulph. (2.) Ars., Bell., Caust., Nitr. ac., Rhus, Sarsap., Sep., Sulph. By working in cold water. Calc., Nux mosch., Puls., Sarsap., Sulph. (2.) Amm., Ant., Bell., Carbo veg., Dulc., Merc., Nitr. ac., Rhus, Sep., Spig.

Lassitude from Overexertion.—Arn., Ars., Bry., Calc., Chin., Cocc., Coff., Merc., Rhus, Sil., Verat. alb.

Mental Alterations.—Anger. Acon., Bry., Calc., Cham., Ign., Nux vom., Phosph. *Fright and Fear.* Acon., Ign., Op., Puls. (2.) Bell., Caust., Coff., Hyosc., Lach., Nux vom., Samb., Verat. alb.

Ill Effects from Dissipation.—Calc., Carbo veg., Chin., Cin., Cocc., Con., Natr. mur., Nux m., Nux v., Phosph., Phosph. ac., Sulph. From *syphilis.* Iodide of potash, Mercurials, Phytolacca, Stillingia, Sanguinaria, Cundurango, Cuprum, Nitr. ac., Thuja, Natr. sulph.

Suppression of Footsweats.—Cham., Cupr., Merc., Nitr. ac., Natr., Puls., Rhus, Sep., Sil.

Jahr, *Clinical Guide*, p. 326, considers the principal remedy for all acute cases to be Dulcamara, to be preceded by Acon. on account of the fever. Where Dulc. should fail, select (1) Bell., Bry., Cocc., Nux v., Rhus. (2.) Ars., Calc., Caust., Dig., Ign., Puls., Verat. In cases of chronic inflammation of the upper portion of the spinal cord, with apparent incipient softening, paralysis and atrophy of one arm, I have used Caust. and Staph. with great benefit, also Dulc. and Lach. Page 62, he treats of tabes dorsualis or atrophy of the spinal cord, and says: "I have treated twenty-one cases arising from onanism, accompanied with hypochondria, despondency, aversion to life. The characteristic unsteadiness of the limbs and the peculiar formication in the back were present in every case. I gave in every case one dose of Nux vom. $_3^8{}_0$, allowing it to act from two to three weeks, and then Sulphur 30, allowing it to act from four to five weeks. If unpleasant symptoms remain, I resort to Calc., Carb. veg., Caust.,

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Phosph. ac. For atrophy and perfect paralysis of the lower extremities, I would propose Nux v., Sulph., Nux v., Caust., Nux v., Calc., Carb. veg., Cocc., Phosph., Rhus, in this order and alternation, in a single dose and at long intervals. As in all chronic diseases, so also in this disease, constant change of remedies is exceedingly hurtful." Hints for their application are:

Nux vomica.—Painful unsuccessful desire to urinate; shaking and instability of the legs; sensation of heaviness and fatigue in the legs and arms, especially when ascending; the legs are not able to carry the body, he must lie down; sensation of sudden weakness of the legs; constipation; paralysis of the bladder; sensation of formication in the spine.

Sulphur.—The soles of the feet become soft, sensitive and painful when walking; great heaviness in the legs when walking, as if they were paralyzed; weakness in the legs, and sensation as if there were no marrow in the bones.

Phosphorus.—Periodically returning insupportable pains in the spine, preventing walking; continuous stitches in the spinal cord all day at various times; heaviness and sensation of fatigue, especially when ascending steps; drawing pains from the knees to the feet, as if they were paralyzed; sensation of heaviness of the feet; pains in the soles of the feet, as if she had walked too far; weakness of feet, with sensation as if they were asleep, with great restlessness; burning pain in the back; great sexual excitement; frequent involuntary seminal emissions; great irritability and nervousness.

Nux moschata.—Lower extremities painful and languid, as after a long journey, with great uneasiness in the limbs and pain in the dorsum of the feet, as if a hard body had fallen on them; pain near the lumbar vertebræ as from blows with the fist; pain in the back or small of the back, as if broken or bruised; back-pain when riding in a carriage.

Aluminium met.—Pains in the soles of the feet as if they were swollen and too soft; bruised sensation down the back; pain in the back as if a hot iron were thrust through the lower vertebræ; heaviness of the limbs, she can scarcely lift them; numbness of the heels when stepping on them; sensation of soreness

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in the loins above the hips, in the muscles of the calves, while walking; slow staggering gait as after a long sickness.

Æsculus hippocast.—Constriction of the rectum; lameness in the back and severe aching in the knees; great soreness of the spine; almost complete paralysis of the lower extremities.

Gelseminum.—A grand remedy in meningitis cerebro-spinalis, but also for brain and spinal weakness from exhaustion or any other unusual ordeal; confusion of the head spreading from occiput to forehead; pupils dilated; dim sight; heaviness of head; sensation of a band around the head; expression of face heavy, dull, drowsy; tongue and glottis partially palsied; speech thick, as if drunk, from congestion of base of brain; incontinence of urine from paralysis of the sphincter; pains from spine to head and shoulders; muscles feel bruised, and will not obey the will; dull aching in the lumbar and sacral region; cannot walk, muscles will not obey; arms weak, numb; drawing, contracting, crampy pains in the legs from thighs to toes, worse on motion or walking; heaviness and weight of lower extremities; loss of voluntary motion, muscles will not obey the will; limbs cold.

Cocculus indicus.—Involuntary motions of right arm and right leg, which cease during sleep; great lassitude of the whole body, it is an exertion to stand firmly.

Stramonium.—Constant pain in cervical and upper dorsal vertebræ; difficult to bring hand to tumbler, or carry latter to mouth; limbs feel as if gone to sleep; cold hands and feet; paralysis of lower limbs; loss of speech; muscles will not obey the will; frequent twitchings, sudden jerks through the body.

Jahr considers the chief remedies for paralysis, if caused by rheumatism, to be, Arn., Baryt., Bry., Caul., Caust., Chin., Cocc., Ferr., Gels., Lyc., Ruta, Sulph., Tart.; from emotions, Arn., Natr., Stann.; after bodily exertions, Arn., Rhus; excesses in venery and drinking, Chin., Cocc., Ferr., Natr. mur., Nux v., Phosph., Rhus, Sulph.; from damp cold, Caust., Rhus; from spinal affections, Aluminium, Arn., Ars., Phosph.; by mercurial poisoning, Hep., Nitr. ac., Staph., Stram., Sulph.; for palsy of motor and sensory nerves, Ars., Bell., Caust., Ign., Nux v., Rhus; of the sensory nerves alone, Plumb., Sil.; of the motor nerves alone, Gels.

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Baehr, in his therapy, recommends the following remedies for myelitis, acknowledging, at the same time, the darkness yet prevailing in our therapeutics and the scantiness of material recorded. He advises *Mercurius* to be given in the different stages of paralysis of the extremities, of the bladder and rectum, with tendency to the peculiar jactitation and twitching; severe spinal pains aggravated by motion; anæsthesia of the skin; restlessness and sleeplessness, aggravated at night.

Secale cornutum destroys the activity of the cord. We meet further the convulsive twitchings and shocks; painful contractions; tetanic manifestations; perfect paralysis even with increased reflex activity; most excruciating spinal pains, especially in the sacral region, through anæsthesia; paralysis of the bladder and of the rectum; a peculiar tendency to gangrene, showing itself in myelitis by decubitus. It suits acute as well as chronic cases, but especially the latter.

Nux vomica caused in all physiological experiments only venous hyperæmia of the meninges, but not of the cord itself. It also causes far more tetanic contractions than palsy, more hyperæsthesia than anæsthesia, with excessive reflex irritability. Pachymeningitis and leptomeningitis spinalis.

Rhus tox. suits the latter stages of acute or chronic myelitis when the paralysis is fully developed.

Veratrum album needs to be studied up for practical results. It suits best the latter stages.

Plumbum acts on the whole cerebro-spinal system. It attacks the substance of the medulla, and its symptoms of paralysis are exquisite. On account of its slow action it is more suitable to chronic than to acute cases, and we meet here characteristically the early atrophy and contraction of the paralyzed and painful parts. The colic, emanating from the spine, hints also at Plumbum.

Cuprum does not give us as exquisitely as Plumbum the manifestations of paralysis; spasms prevail in Cuprum, paralysis in Plumbum. Both are indicated in myelitis; Cuprum in the beginning, Plumbum towards the end.

Cocculus is a grand remedy, especially in the beginning of myelitis, particularly where the lumbar medulla is affected in its functional activity, before material changes have happened.

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Phosphorus for sexual excesses. *Sulphur and sulphur springs* act sometimes beneficially in absolute exudations, and keep the disease and its yearly exacerbations at bay.

Tabes Dorsualis (*Sclerosis of the Posterior Columns*) Baehr considers a form of myelitis and advises us to choose the remedy according to the symptoms found under myelitis, and he adds Silicea, Causticum, Aluminum metallicum. The state of the genital sphere might hint at Phosphorus; whether it will help is still an open question.

In regard to paralyses Baehr truly remarks that they are nearly always secondary affections, and to treat them effectually we must look for the primary affection. He recommends:

Cuprum when originating from cerebral affections with convulsions, or in paralysis following exhausting acute diseases, as cholera, dysentery, typhus, etc. In Cuprum the motory nerves are preponderatingly affected, sensation may remain intact, nutrition more or less disturbed, but never to a high degree, and convulsive twitchings take place in the paralyzed parts.

In *Plumbum* motion and sensation are lost, the paralyzed parts soon become atrophied and lose their animal heat. In Cuprum consciousness and the cerebral function are less disturbed, in Plumbum they are constantly and sometimes severely. Both metals show intimate relations to the function of the tongue, and must be thought of in paralysis of that organ.

Rhus tox.—Hartmann considers it the *antiparalyticum par excellence.* The tendency to extinction of organic action even to paralysis is a primary action of Rhus, and the sensation of numbness and deadness is characteristic of this drug. There is also the sensation in the joints as if sprained, as if single tendons were shortened, or a distressing uneasiness wandering about in single limbs during rest, and released only by increased motion. This distress leaves a kind of lameness in the part distinctly pointing to ultimate palsy. The principal symptoms of Rhus are: lameness in all the extremities and joints, with stiffness, worse on rising after having been seated a long time; palsy of one side of the lower extremities, with dragging, slow, difficult walking. It is therefore an excellent remedy for hemi- and paraplegia, for enuresis paralytica, paralysis of the rectum, for ble-

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pharoplegia and dysphagia paralytica, provided the other symptoms correspond. It is also the best remedy for paralysis caused by exhausting acute diseases, especially typhus.

Arnica is *the absorbens par excellence*, from whatever cause the exudation may have arisen.

Causticum is slow but sure in its action. Hartmann used it successfully in partial paralysis occasioned by a cold current of air, and in hemiplegia from suppressed itch or some other cutaneous eruption, with numbness, deadness and coldness of the affected parts, especially the head and foot. It is a valuable remedy for paralysis remaining after apoplexy, and characterized by weakness of the arms and a dragging, vacillating gait, sometimes accompanied with frequent rush of blood to the head and anxiety, also vertigo, dulness and tightness of the head. Facial paralysis Hartmann and others have cured with Causticum. Paralysis of the tongue with stuttering, hissing, indistinct speech may be relieved by it. It may be considered as a fact that Causticum acts better in paralysis of single nerves than in general palsy, more in hemiplegia than in a perfect one, for sensibility is mostly intact where Causticum is indicated.

Cocculus.—Paralysis of the lower extremities, proceeding from the small of the back and arising from cold. It acts best in fresh cases with severe pains in the paralyzed parts or with convulsive twitchings. It corresponds to hemiplegia, particularly of the left side, to paralysis of the tongue, face and pharynx.

Sulphur.—Paralysis resting on a material basis, in chronic cases where we would give Arnica in fresh cases, producing absorption of the exudation.

Baryta carbonica.—One of the most valuable remedies for paralysis after apoplexy, and particularly for paralysis of old people, preceded for a long time by a feeling of instability of the whole body, sudden giving way of the knees and pain in the lumbar vertebræ Glosso-paraplegia, even in young people, can scarcely ever be cured without Baryta.

Secale cornutum.—Paroxysms of cramps, when frequently recurring in the same limb, leave lameness and even complete paralysis; if the lower extremities are attacked, stools and urine are

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frequently passed involuntarily and the paralyzed limbs emaciate rapidly.

Dulcamara, alternated with Sulphur, in paralysis arising from a cold, or from dampness, or from suppressed itch and herpes. It cures paralysis of the arm with icy coldness, as if occasioned by apoplexy; paralysis of the upper and lower extremities, tongue and urinary bladder.

Paralysis of tongue: Baryt., Cupr., Plumb., Stram., Dulc., Ac. mur., Cocc., Bell., Caust.

Paralysis of facialis: Caust., Cocc.

Paralysis of pharynx: Canth., Stram., Bell.

Paralysis of vesica: Bell., Dulc., Canth., Lyc., Natr. mur.

Paralysis of rectum: Lyc., Ruta.

Paralysis of feet: Sulphur, Nux v., Zinc., Cocc.

Paralysis from suppressed footsweat: Colch., Merc., Rhus, Sil., Zinc.

Paralysis from repercussion: Caust., Puls., Sulph.

Paralysis from outside violence: Arn., Calend., Cic., Con., Hyper., Plat., Rhus.

Paralysis from becoming chilled: Bry., Dulc., Nux v., Rhus.

Kafka (*Hom. Therapie*, II, 167) fails to distinguish between meningitis and myelitis spinalis. He only treats, in his usual exact manner, spondylitis, which causes secondarily myelitis from compression (abscess), for which Phosph. and Natr. mur., and finally Sil. and Sulph., are his chief remedies. In progressive locomotor ataxia, if not too far progressed, he hopes for some improvement from Phosph., Nux v., Calc. carb., Agar., Staph., where constant animal losses are the cause, or from Arn., Ars., Cocc., Rhus, Sulph., after excessive bodily exertions. The usual remedies recommended for paralysis, as Cupr., Plumb., Ars., Phosph., Sec., Strychnine, were faithfully tried but were found wanting.

Gerhardt (*Homœopathy*, page 471) recommends Acon. and Bell. for the removal of the inflammation; Silicea or Aurum for softening or formation of abscess; Rhus for rheumatism of the cord. Two cases of tabes were cured with Aluminium after the failure of Nux and Sulph.

Ruddock (*Text-book*, 357) recommends for locomotor ataxy,

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Phosph., Bell., Kali brom., Arg. nitr., Ars.; for general palsy, Phosph. (from degeneration); Baryt. carb. (of old persons); Merc. cor., Cocc., Con., Bell. (after apoplexy); Plumb. (atrophy or obstinate constipation); Arg. nitr., Gels. (muscular palsy); rheumatic palsy, Rhus, Acon. (recent), Arn., Strych., Sulph. (chronic). He found *Phosph.* especially valuable in palsy from degenerative changes in the brain and spinal cord following sexual excesses or debilitating diseases, with fatty degeneration of the muscles. It is especially indicated in paralysis of spinal origin, as from softening of the anterior columns of the cord, with sexual excitation first and paralysis and impotence afterwards.

Nux v.—Paralysis from disease of the spinal cord, consequent on the abuse of alcohol, with anorexia, sickness, constipation, etc. The strong tincture should be given, or, in advanced cases, Strychnia, 3x or 4x trit., may be substituted.

Plumbum.—General or partial palsy with excessive wasting of the muscular tissue, obstinate constipation and other symptoms resembling those produced by lead.

Rhus tox.—Rheumatic palsy from repeated exposures to wet, strains or excessive exertion, with painful stiffness, tingling and numbness; pains are especially felt on rising in the morning and on movement after rest.

Baryta carb.—In complete general paralysis of the aged, with loss of memory, trembling, paralysis of the tongue, etc.

Espanet (*Pratique de l'Homœopathie*) confides in the beginning of myelitis in Ars. and Nux v.; Cocc. and Ign. where convulsions or convulsive twitchings prevail; Cuprum and Plumbum for contractions; Opium and Secale for coma; Ars. and Phosph. for rachialgia. In spinal paralysis he relies on Rhus and Phosph., followed by Nux v., Plumb., Cocc., Arg. nitr., Zinc., Sulph.

Hughes (*Therapeutics*, 148) considers *Bell.* the remedy *par excellence* in locomotor ataxy during its earlier stages, as we find in its pathogenesis nearly all of those apparently incongruous symptoms which characterize the idiopathic disease. No medicine equals it in specific affinity for the eye where it has caused the injected conjunctiva, the dilated, sometimes varying, pupils, the diplopia and the ptosis so often observed in ataxy. Then Lu-

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sanne notes that the full effect of Atropin is to cause incontinence of urine, and even involuntary fecal discharges. Anæsthesia, always induced by the local application of the drug, has in one case of poisoning been general over all parts of the trunk and extremities. No substance is so powerful a depressant of reflex excitability as Belladonna. Now considering that locomotor ataxy is a hyperæmia going on to atrophy, we may try Bell. in the earlier stages of this disease with the fairest hopes of success—*Arsenicum* in some cases, and Bell., in removing the neuralgic pains. He also advises Bell. in acute, *Secale* in chronic, myelitis; *Phosph.* for softening of the cord, apart from inflammation; *Plumbum* for induration and atrophy; *Arnica* and *Hypericum* for concussion of the spinal marrow. For general spinal palsy (Duchenne), possibly dependent upon softening of the anterior columns of the cord, Phosph. ought to be our chief remedy, though pathogenesy would point to *Conium*, and clinical experience to *Cocculus*, as not less strongly indicated. In glosso-laryngeal palsy, our only hint for treatment is derived from the fact that the local derangement of the nervous centres on which it depends commences with hyperæmia, hence Belladonna might help.

Hale, in his *Therapeutics*, recommends for myelitis Calabar, Cannabis indica, Ergotin, Strychnia and Veratrum viride. The operation of the *Calabar bean* is spinal; it acts on the anterior or motor column, so as to suspend or deaden the energy or reduce the activity of its functions. The powerless parts are those which receive their nervous supply from the spinal cord and its nerves. The muscles of the extremities and of respiration are most enfeebled; the paralysis is primary and always seated in the striped muscles; there is no failure of volition; the will is strong, but the difficulty lies in the way of carrying out its purpose. The paralysis is commonly preceded by twitching or trembling of the muscles. It may be useful in the cerebro-spinal sclerosis.

Cannabis indica has many symptoms of paraplegia, and may prove curative in some cases, not caused by any grave lesion of the cord, but functional in character.

Ergotin.—In all the cases of poisoning on record, and in all

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the experiments on animals, paralysis is generally a prominent effect of this drug. According to Brown-Séquard, Ergot produces, like Belladonna, a contraction in the bloodvessels of the spinal cord and its membranes, and therefore diminishes the amount of blood circulating in these organs, causing such an anæmia of the spinal cord as to diminish or abolish its nutrition, and thereby its vitality. It will be found useful in paraplegia from reflex irritation, when anæmia of the cord is present, and non-inflammatory softening is imminent, or secondarily in passive congestion or chronic inflammation, or even the second stage of spinal meningitis, when of a low type.

Strychnia.—Acute myelitis and spinal meningitis may come under its primary curative power. It causes intense congestion of the cord and its membranes, which, if persistent, results in inflammation and softening. As an intercurrent remedy it will be of value in alternation with Veratrum viride or Belladonna, even in the acute stage. In later stages it alternates well with Cannabis indica or Ergot. Strychnia is primarily homœopathic to paralysis from myelitis, meningitis, pressure on the cord, hæmorrhage in the spinal cord, softening of the cord. The presence of congestion or extravasation is an excellent indication for the use of Strychnia in the highest attenuations, and the Phosphate of strychnia is a most suitable preparation. Secondarily, Strychnia is indicated in all cases of paralysis from exhaustion of the spinal cord, spinal anæmia, reflex para- or hemiplegia or white softening; also in cases where it was primarily indicated, but after all signs of irritation have passed away, there remains a paresis of the motor nerve-centres.

The action of *Veratrum viride* on the spinal cord is just the reverse of Strychnia. It primarily paralyzes the spinal cord and the reflex motor nerve-centres, and secondarily it causes congestion and inflammation. The congestion is an intense capillary hyperæmia, and the inflammation the result of pressure in and rupture of the capillaries, and is as much mechanical as dynamic. In relation to the nervous system Veratrum viride appears to be more a cerebral than a spinal remedy.

In relation to paralysis, Hale mentions the following remedies:

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The sphere of action of *Gelseminum* is doubtless principally confined to the motor side of the spinal cord, the brain and the mucous membranes. The sensory nerves are less profoundly affected, as benumbing sensations or anæsthesia are less frequently met with. It may be found useful in some affections of the brain and spinal cord, perhaps in locomotor ataxia, softening and other serious lesions.

Dr. Elb, of Dresden, recommends *Guaco* very highly in spinal diseases (*All. H. Z.*, 61, 72 and 23), and says the affection of the tongue, the muscles of deglutition and the larynx hint strongly at a commencing paralysis proceeding from the medulla oblongata, as we see it frequently in a more developed grade in apoplexy. Hale found it most useful in hyperæmia of the cord in robust, ruddy persons inclined to congestions, excitable, especially in males, where the spinal disease has not been caused by loss of fluids or depressing causes; in persons disposed to hæmorrhoids, where the pains, with only a slight feeling of weakness in the lumbo-sacral region, are mostly in the upper part of the vertebral column, aching, drawing or sticking in character, very severe, with at the same time only pains in the extremities but no paretic symptoms, and the parts affected are extremely sensitive to pressure. Arterial stasis may pass on into inflammation, or by the rupture of vessels may terminate in apoplexy. It has, therefore, approved itself a most excellent remedy in paralysis resulting from pressure on brain or spinal marrow, *i. e.*, apoplectic paralysis. It is of use only after the first violent febrile storm (Bell.) has abated, no matter whether a soporous condition exists or not. Guaco develops its most eminent curative power when extravasation has caused paralysis of the tongue or of the extremities; the former is often relieved in a few hours, the latter yields to Guaco far more quickly than to any other remedy. It renders inestimable service not only in acute but also in very old palsy, when these have resulted from extravasations of blood and not from exudations. It is a peculiarity of its action that the paralysis of the lower extremities yields very readily, while that of the upper extremities is seldom entirely cured by it. It matters not whether the paralysis be confined to one side or not.

We were just looking over our pile of homœopathic journals

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in order to find a crumb to help us onward in our labors, when the letter-carrier brought an advanced copy of Hughes's second edition of his *Therapeutics*, and we most sincerely thank this able writer for this gift, as it carries pathology and therapy up to the present time. We need not tell you that we immediately looked for myelitis, and our expectation was not disappointed. On page 232 of vol. i, he recommends again *Bell.* and *Merc.* for acute cases, and for more chronic cases he suggests *Oxalic acid* and *Arsen.* For spinal paralysis from inflammation of the anterior tract of gray matter in the cord followed by atrophy, he advises *Bell.* during its early stages, and *Phosph.* and *Plumb.* when atrophy is threatening, although Phosph. is undoubtedly most appropriate to non-inflammatory softening of the cord. For labio-glosso-laryngeal paralysis (paralysis of the tongue) while *Anacardium* and *Oleander* are said to have cured it, the most promising remedies are *Bell.* and *Plumb.*, especially the latter. For multiple spinal sclerosis, with its rigidity and contractions of muscles, *Cuprum;* the same remedy for amyotrophic lateral spinal sclerosis; *Belladonna* offers a striking analogy between its own symptoms and those of sclerosis of the posterior columns during the incipient stage, when the "douleurs fulgurantes" and other erethistic symptoms are present. The old school relies on *Argent. nitr.* in appreciable doses; we follow Boenninghausen, and centre our trust in *Aluminium met.* or *Zincum sulph.* But as soon as, in consequence of this sclerosis, atrophy of the muscles reveals itself, *Plumbum* will be indicated, and where fatty degeneration and deposit appears to be the essence of the muscular change, while the central lesion is identical with that which obtains in ordinary spinal paralysis (Duchenne's pseudo-hypertrophic spinal paralysis), *Phosphorus* takes the place of Plumbum.

Comparing the different authorities mentioned, we find recommended

Aconite, . . . by Jahr, Gerhardt, Ruddock, Granier (*Homœolexique*).
Æsculus hip., . by Jahr, Hale.
Agaricus, . . by Kafka.
Aluminium met, by Jahr, Baehr, Gerhardt, Hughes.
Argentum nitr., by Espanet, Ruddock, Granier.
Arnica mont., . by Jahr, Baehr, Kafka, Espanet, Hughes, Ruddock, Granier.

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Anacardium, . by Hughes, Granier.
Arsenicum alb., by Jahr, Kafka, Espanet, Hughes, Ruddock, Granier.
Aurum met., . by Gerhardt, Ruddock.
Baryta carb., . by Baehr, Granier.
Belladonna, . . by Jahr, Hughes, Gerhardt, Ruddock, Granier.
Bryonia, . . . by Jahr, Granier.
Calcarea carb., . by Jahr, Kafka.
Cannabis indica, by Hale.
Carbo veg., . . by Jahr.
Causticum, . . by Jahr, Baehr, Granier.
Cocculus, . . . by Jahr, Baehr, Kafka, Hughes, Espanet, Ruddock Granier.
Conium mac., . by Jahr, Hughes, Ruddock, Granier.
Cuprum, . . . by Baehr, Hughes, Espanet.
Digitalis, . . . by Jahr, Granier.
Dulcamara, . . by Jahr, Baehr, Granier.
Ergotin, . . . by Hale.
Gelseminum, . by Jahr, Hale, Ruddock.
Guaco, . . . by Hale.
Hypericum perf., by Hughes.
Ignatia, . . . by Jahr, Espanet, Granier.
Kali brom., . . by Ruddock.
Mercurials, . . by Baehr, Hughes, Ruddock.
Natrum mur., . by Kafka.
Nux moschata, . by Jahr.
Nux vomica, . by Jahr, Baehr, Kafka, Espanet, Gerhardt, Ruddock, Granier.
Opium, . . . by Espanet.
Oxalic acid, . . by Hughes.
Oleander, . . by Hughes, Granier.
Phosphorus, . . by Jahr, Baehr, Kafka, Espanet, Hughes, Ruddock.
Physostigma ven., by Hale.
Plumbum, . . by Baehr, Hughes, Espanet, Ruddock.
Pulsatilla, . . by Jahr, Granier.
Rhus tox., . . by Jahr, Baehr, Kafka, Gerhardt, Espanet, Ruddock, Granier.
Secale corn., . by Baehr, Espanet, Hughes.
Silicea, . . . by Baehr, Kafka, Gerhardt, Granier.
Stramonium, . by Jahr, Granier.
Strychnine, . . by Hale, Ruddock.
Sulphur, . . . by Jahr, Baehr, Kafka, Gerhardt, Ruddock, Granier.
Veratrum album, by Jahr, Granier.
Veratrum viride, by Hale.
Zincum sulph., . by Espanet, Hughes, Granier.

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Résumé of Therapeutics.

We have studied so far acute myelitis in its different forms as acute (apoplectiform) and subacute myelitis, and divided it into:

1. *Traumatic softening of the spinal medulla*, hæmorrhagic softening, circumscript, followed by yellow softening; during the shock: Aconite, Arnica, Hypericum; in the second stage: Arnica, Baryta, Sulphur, perhaps Kali muriaticum, which is considered by many physicians as a good absorber of exudations.

2. *Myelitis by compression*, with structural changes in the medulla, a whitish-gray softening, with fatty detrition and beginning atrophy: Arnica, Arsenicum, Arsen. jod., Calc. carb., Calc. arseniosa, Calc. jod., Conium, Mercurius, Phosphorus, Sulphur.

3. *Primary acute softening of the cord*, paralysis bulbaris, myelitis cervicalis, myelitis dorsalis, myelitis diffusa. In *paralysis bulbaris*, where the vagus and respiratory centre are often so severely affected, we might try Baryta, Belladonna, Cuprum, Stramonium, Cocculus, Mercurius, Causticum or Plumbum. In *cervical* softening: Cocculus, Stramonium, Cuprum, Rhus tox., Dulcamara, Mercurius; for *myelitis dorsalis*, the most frequent form of acute myelitis: Acon., Gelseminum, Cocculus, Nux moschata, Nux vomica, Rhus tox., Causticum, Phosphorus, Plumbum, Zincum, Sulphur; for *diffused or generalized* myelitis, ascendens: Conium, Ledum; descendens: Belladonna, Mercurius, Gelseminum, Nux vomica, Phosphor., Rhus tox., Sulphur.

4. *Acute spinal paralysis, myelitis without softening:* Acon., Gels., Bell., Merc., Caust., China, Con., Cocc., Cupr., Rhus.

5. *Abscess in the spinal cord:* Merc., Hepar, Bell., Kali mur., Magn. phosph.

6. *Myelo-meningitis acuta, perimyelitis acuta:* Acon., Bell., Bryonia, Cicuta, Conium, Caust., Rhus.

Chronic myelitis may appear in three different forms:

1. *Sclerosis of the posterior column, progressive locomotor ataxy, tabes dorsualis:* Nux vom., Sulph., Calc., Caust., Carb. veg., Acid. oxal., Acid. phosph., Aluminium, Phosph., Silicea; or Æsculus, Argentum nitr., Arsen., Lachesis, Plumb., Zincum sulph.

2. *Multiple sclerosis and lateral sclerosis:* Oscar Bergar (*Zeitsch.*

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f. Pract. Med., 16–19, 1876) has lately satisfactorily proved that the lateral columns contain the fibres connecting the peripheral nerves, motory as well as sensory, with the brain. Hence cerebral as well as spinal remedies may find here their indications according to the individuality of the case. Combined with electrical treatment, we ought in many cases of chronic myelitis to succeed in curing our patients.

Dr. J. H. Rae, of New York, in his little work *The Application of Electricity as a Therapeutic Agent*, is certainly perfectly justified in recommending his battery before any other one, as he claims especial curative power for his superinduced current. Whether this is true or not, experience will decide, although we believe that it is with electric batteries as it is with the forceps, every workman works his best with the one he is used to handle. But we fully agree with the doctor when he says (page 99) in relation to paralysis, "The strictest watch should be kept to discover the first evidences of improvement, for as soon as improvement takes place the strength of the current should be reduced, as by overstimulating the cure may be retarded or even defeated. In fact, always after the muscles and nerves have once been excited, a light current should be used, one that can just be perceived by the patient."

We recommend our readers to study the chapters on myelitis and paralysis in Meyers's *Electricity in its Relations to Practical Medicine*, translated into English by Dr. Hammond, and those who read German to study that excellent work by Benedict, *Nervopathologie and Electrotherapie*, especially the introduction, where his diagnostic laws of diffusion give us many a valuable hint in relation to therapeutics, and where he opposes so successfully the tendency of the French authorities to reduce all the symptoms of a symptom-complex to a focal disease; even where we are in doubt whether a case of chronic myelitis is still curable or not, electricity alone is able to clear up this doubt, as it has done in many cases reported in the different journals. Time and patience are two necessary factors for the cure of these nervous disorders, and it is far better to make our patients acquainted with the fact before we begin to treat them. Months may pass without any visible improvement, the disease is, as it

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were, apparently *in statu quo*, and yet silently, as it were, a retrograde metamorphosis may take place in the affected parts and amelioration by-and-by become more visible. The similimum to the totality of the symptoms, with the aid of hygiene, hydrotherapeutics and electrical treatment ought to make many a case amenable to our treatment which has hitherto been considered incurable. *Aude sapere.* First, study your case well up in all its intricacies; in nervous disorders do not consider anything trivial, and then, knowing thoroughly your patient and his diseased state, dare to try to bring him back to his normal state, *i. e.*, to health.

Repertory of Cerebro-spinal Symptoms.

Gait, tiresome, Zinc. oxid.
—— dragging, Rhus tox.
—— staggering, Op., Petr., Rhod.
—— heavy, Sil.
—— giddy (staggering), Bism., Cupr. ars., Magn. mur., Maram verum.
—— sliding, Ol. anim.
Numbness of points of fingers (impossible to pick up a pin), Tart. em., Ars., Cann., Graph., Magn. mur.
—— Phosph. acid., Sec., Spong., Staph., Acon.
—— Electr., M. aust., Croton., Lach.
Want of feeling on grasping, Stram.
Numbness and formication in fingers, Anac., Angust., Ars., Calc., Caust., Coff., Colch., Con., Ferr. acet., Fluor. acid, Gins., Mur. acid., Ol. anim., Phos., Rhus, Sec., Sil., Sulph., Tax., Galvan., Kali carb., Kreas.
Numbness and formication of toes, Ars., Cham., Phos. acid, Plumbum acet.
—— *of sole of foot* (sensation as if stepping on fur, velvet), Bry., Puls., Sulph., Ars.
—— *of heel*, Alum., Arg., Caust., Ign., Lyc., Nux vom., Sep., Stront.
Sensation of cobweb on hands, Borax.

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Electric shocks in general, Colch., Strych., Sulph. acid, Xanthox.
—— upper extremities, Nux jugl., Tarax, Galv., Mgnt.
—— in head, Natr. sulph., Sang., Fluor. acid.
—— in vertex, Natr. sulph.
—— in forehead, Sang.
Constriction around the waist, Acon., Can., Dig., Ign.
Chill with coldness of whole body, Agn., Bov., Cycl., Ign., Phos. acid., Puls., Ran. bulb.
Paralysis of sphincter ani, Bell., Coloc., Graph., Hyosc., Laur.
—— *neck of bladder*, Bell., Canth., Hyosc., Laur.
Strabismus, Alum., Bell., Sec., Stram.
Diplopia, Agar., Amm. carb., Aur., Bar. c., Bell., Con., Dig., Eug., Euph., Graph., Hyosc., Iod., Nitr. acid, Petr., Puls., Sec., Stram., Veratr., M. austr.
Speech, lisping, Natr. carb., Nitr. acid.
—— inarticulated, Con., Stram.
—— tiresome, weary, Carb. an., Secale, Tabac.
—— heavy, Amm. carb., Bell., Con., Crot., Hell., Iod., Merc. perr., Mez., Natr. c., Natr. mur., Nux vom., Rlumb., Sec., Stram.
—— stammering, Bell., Bov., Euph., Hyosc., Merc., Op., Sec., Stram., Verat.
Spasms of laughing and crying, changing, Aur., Bell., Caps., Stram.
Apoplexy, Ant., Bell., China, Chin. sulph., Con., Cap., Croc., Dig., Hydroc. acid, Hyosc., Iod., Kali hydr., Merc., Nux mosch., Op., Plumb., Plumb. acet., Sec., Tab., Verat.
Convulsive concussions, Arn., Morph., Mez., Strychn., Mgt.

Causes (of locomotor ataxy).

Cold moist atmosphere, Amm., Borax., Calc., Carb. v., Acon., Cepa, Dulc., Lach., Rhod., Rhus, Veratr.
Suppression of footsweat, Cupr., Nitr. acid., Cham., Merc., Natr., Puls., Rhus, Sep., Sil.

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Mental depressing emotions, Ars., Coloc., Graph., Hyosc., Ign., Lach., Lyc., Nux vom., Phos. acid., Staph., Veratr.
Excess in venery, syphilis, Merc., Aur., Nitr. acid, Hep., Sass., *Syphilin.*
Heredity, Psorin? Syphilin?

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LXIV.

THERAPEUTICS OF SPINAL DISEASES.

By F. F. de Derky, M.D., Mobile, Alabama.

The difficulty in obtaining individual indications in spinal diseases is obvious, when we consider their obscurity. Looking over the therapeutics of these diseases, of former times up to that of a more recent date, we find nothing beyond general treatment, consisting in most cases of bleeding, general or local, counterirritation, various issues, irritating and bland external applications, together with the at random administration of a great many remedies, for the use of which nothing more could be advanced than that it was presumed they had benefited such cases or had been recommended by one or another authority. The cures or beneficial effects often had no firmer basis than *post hoc ergo propter hoc.*

In this manner we find recommended the preparations of lead, copper, iron, gold, silver, tin, not to forget those of mercury, arsenic, antimony, etc. Then again we find Ergot, Nux vom. and Strychnine, Veratrum, Camphor, Turpentine, Rhus tox., Opium, Zincum and a host of other remedies to have been praised, tried and thrown aside again, for want of proper indications to use them.

The treatment has been and is left altogether to the judgment of the individual practitioner, in both the acute and chronic forms of these affections, and hence the great difference; "many heads, many minds," one condemns what another finds useful

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and *vice versa*. This uncertainty has apparently not decreased with the late elaborate researches that have thrown so much light on histology and pathology. The same casting about and groping in the dark theories have multiplied without perceptible increase in the certainty of the treatment.

That we are better off in our own school regarding the treatment of these diseases, is denied on many sides, and certainly not only not admitted but ridiculed by our brethren from over the way. It is unfortunately very significant that our literature is exceedingly meagre in reports of practical experience concerning especially the chronic affections of the spinal marrow, etc.

When this subject was selected by your bureau, and a part of the work allotted to me, I was at a loss how to proceed with it, whether to go over the whole field of recent investigations with all their contradictions, assertions and denials, and make an attempt to utilize them for practical application as far as I might be capable of doing so, or to collate what we have in our vast storehouse of Materia Medica Pura relating to this subject and give it in the form of a repertory. This latter mode I considered a more onerous and less thankful task, but of more intrinsic value so far as practical usefulness might be concerned, and so I went to work. As time passed on, the material grew until it became altogether too unwieldy for a single article or paper of this kind, and I found myself obliged to abridge considerably from the original plan. I do not mean to say that this abridgment was achieved by sifting or omitting important symptoms, but rather by cutting short concomitant parts and leaving out diseases supposed to originate at least in part from the spinal marrow, and which were intended to be included herein. By doing so, many characteristic symptoms belonging as concomitants to the whole are entirely lost sight of; on the other hand symptoms of some remedies are included here of which it cannot be said that the remedies are in any specific relation to the spinal cord or even act secondarily on the same. Still these symptoms, as they are recorded in the Materia Medica, seem to justify their employment in cases where we would meet them isolated or in connection with others, and so I have thought best not to omit them.

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For obvious reasons our subject is not divided into the treatment of the diseases under different heads and names, pathological or physiological, but is given as regional and symptomatical. I am aware of its many imperfections, perceptible to all, for which I crave your kind indulgence, hoping that this may lead to other efforts of greater practical value. In diseases where there are so few well-authenticated curative results of the therapeutic efforts made as is the case with those under consideration, everybody ought to lend a helping hand for the clearing away of the obstructions to a clear insight to effect greater certainty in therapeutics. I wish I were able to offer something more satisfactory, but even as it is, our means of cure, as well as the results of the same, compare most favorably with those of the adherents of our elder sister school, notwithstanding their ridiculing that fact. Moreover, their most reliable standbys are acknowledged to be truly and strictly homœopathic, such as Ergot, Strychnine, Nux vom., Merc., Phosphor.

As auxiliaries to the medical treatment at our command, I may be allowed to mention hydro-therapeutics, medico-gymnastics and electricity.

Of hydro-therapeutics we may employ with good benefit either cold or warm applications in the shape of oblong compresses along the whole length of the column or about the more painful region, in almost all the acute affections, discountenancing of course all other counterirritations in whatever shape as worse than useless and generally doing harm. On the whole it would seem that warm or rather hot applications, as hot as they can be borne, do more good in these cases. Sometimes cold washings of the spine, with or without subsequent frictions, judiciously employed, will be found to do good in both the acute and chronic forms. In the application of these the practitioner should be guided by individual indications. In infantile chronic spinal affections and weakness of the nervous system generally, the little patients may be exceedingly benefited by these washings systematically carried on. The patient is stripped and placed on the mother's or nurse's lap, the head toward the left and face downward; a basin with cold water and a sponge to the right. The operation begins by squeezing the water from the sponge,

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and applying the latter rapidly six or eight times in succession from the nape of the neck along the whole length of the spine from above downward, occasionally dipping and squeezing the sponge anew, then quickly drying the whole back with a soft cloth, and breathing gently over the column from the upper part to the coccyx, finishing up by softly rubbing with the palm of the hand in circular and longitudinal motions.

For medico-gymnastics and electricity we will find no indications in most of the acute affections, and no benefit can be derived from their use except in simple hyperæmia and congestion of the cord. After the acute symptoms have subsided, after all excitory phenomena have passed away, leaving behind paretic symptoms or paralysis, then the use of either one or the other, or both combined, may be of great benefit. Medico-gymnastics, however, should not be expected to do much beyond circulatory influences for the restoration of paralyzed limbs or wasted muscles from spinal diseases.

Electricity has been employed of late very extensively in the treatment of spinal diseases, and in diseases supposed to be dependent more or less on the spinal marrow, in sequelæ to spinal diseases and in complaints of the nervous system generally. Whether all the good can be derived from its use that electricians claim for it is at any rate not proven, and consequently questionable. It should not be employed in any of the acute forms of the diseases of the cord; except as above stated, it would be certain to do harm; but in their sequelæ and in the chronic non-inflammatory affections left behind, in which there is so little hope for improvement, it would be culpable neglect not to employ it for the benefit of our patients. In these cases we may expect the most possible good from galvanic electricity. Whether it restores the degenerated or wasted nervous elements or what not, we do not know. Whether the current should be sent up or down, should be labile or stabile according to wiseacres' theories is equally unknown, and has been found apparently to be immaterial, notwithstanding the high praise bestowed by great authorities in this matter on one or another mode of application. Practical experience has taught, however, that good may be accomplished by its modified use, and until ampler re-

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sults of close observation shall teach us the most beneficial minutiæ for its practical use, we shall have to content ourselves with its empirical employment as heretofore. Many a one relying explicitly on this agent and expecting too much from it, will be doomed to dire disappointment, to his patient's as well as his own dismay, unless dame Nature comes to the rescue.

The repertory has seemed to be most appropriately divided into

Spine and spinal column.
Spinal cord and spinal marrow.
Spinal irritation.
Nervous system.
Neck, cervical vertebræ.
Back of neck, nape of neck.
Shoulders, and between the.
Shoulder-blades, and between the.
Back, dorsal vertebræ.
Small of the back.
Loins and lumbar regions.
Sacrum.
Coccyx.
Extremities in general and limbs.
Gait.
Paralysis and paralytic affections.
Mental symptoms.
Generalities.

REPERTORY.

Spine (see also spinal column).

Spine affected after pollutions, excessive weakness in the legs. *Sabad.*
and limbs, convulsive movements in the. *Curare.*
and small of the back, drawing in the, like painful weakness while sitting and bending forward. *Zinc. m.*
backache, hard, the whole length of the, and back of the neck, also through the right shoulder. *Ptel. trif.*
bruised sensation in the, even when at rest. *Spigel.*
burning along the whole; patients cannot sit at all; they are so much worse from sitting, especially the backache. *Zinc. met.*

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Spine, burning pressing in the, also pressing in the back. *Zinc. met.*
in the, above the sacrum; burning in the sacrum. *Bellad.*
in the region of the left kidney, extending towards the right side. *Lachn. tinct.*
chilliness, almost constant, deep in the. *Sumbul.*
sensation of, in the, with drawing pain. *Mosch.*
coldness along the. *Acon.*
congestion of the, with languor, prostration. *Gels.*
contractive drawing in the. *Cham.*
contractions and drawings in the, with sensation of retraction and twisting of this part. *Curare.*
curvature of the. *Puls., Sil., Staph., Sulph.*
drawing upwards in the, when stooping; grumbling within the. *Sulph.*
enlargement of the spinal vertebræ and curvature of the, towards the cervical region. *Puls.*
jerking kicks in the lower part of the, or separate single pressings, as if from a plug. *Rhodod.*
shaking in the lower part of the, as if the body were drawn backward, with stitches afterwards, in the evenings. *Magn. carb.*
drawing and tearing in the. *Cina.*
jerks, stitching, on both sides of the, especially mornings and evenings. *Bry.*
oversensitiveness of the (tabes dorsalis?). *Nat. mur.*
pain across the shoulders, compelling him to stoop and preventing him from walking erect. *Cann. ind.*
along the, and from the sacrum down through the legs into the feet, worse while sitting. *Kobaltum.*
attending curvature of the. *Æscul. hip.*
as if a hot iron were being thrust through the lower vertebræ. *Alumin.*
bruised, in the, taking the breath away, with lameness of the small of the back, or only while sitting and especially on the left side. *Ruta gr.*
crawling in the, as if from bugs. *Acon.*
cutting, extending from the, over to left hip, around to the abdomen in a circle. *Acon.*
drawing in the back and especially in the, down to the thighs. *Mosch.*
drawing in the, also in the small of the back, with drawing in the back part of the stomach. *Stram.*
tearing, in and near the. *Caps.*

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Spine, pain from the, to head and shoulders, congestion of the, with languor, prostration. *Gels.*
in the, after dinner especially, a spot the size of the palm of the hand in the middle of the spinal column is very sensitive to the touch, and also pains at every motion of the body. *Agar. m.*
as if bruised, while sitting. *Sabad.*
as if it was breaking. *Cocc.*
bent forward, early on waking, at the beginning of motion, disappearing afterwards. *Sil.*
increasing while sitting, better on walking or lying down. *Kobalt.*
sore, within the whole extent of the, from below upwards. *Eupat. pur.*
tingling in the affected parts, especially the face, breastbone and. *Rhus t.*
very sensitive to the touch in the twelfth dorsal and first and second lumbar vertebræ, with a feeling of coldness in the gluteal muscles and formication in the feet. *Agar. m.*
violent, in the upper three dorsal vertebræ, extending through the shoulders. *Kalm. lat.*
shooting burning, deep in the, aching along the spine and limbs. *Agar. m.*
digging in the whole of the left side of the, to the small of the back, increased by inspiration, so as to bring tears into the eyes. *Acon.*
sticking in the whole. *Elaps cor.*
pinching in the middle of the. *Phos. ac.*
pressing, behind under the last ribs on both sides of the. *Apis.*
in the back, as if the, were broken, early, when bending and straightening. *Verat. alb.*
in the, with pain to the touch; pressing in the region of the kidneys, still more between the shoulder-blades, taking the breath away. *Calc. c.*
sensation on the, above the small of the back, with rheumatic drawing in the back of the neck, or burning pressing or drawing pressure alongside the left shoulder-blade, sometimes extending into the nape of the neck or under the right shoulder-blade, especially while sitting, holding the arm free from off the body. *Sepia.*

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Spine, pressing through the, up and down, while sitting straight. *Spong.*
pressure alongside the, as from a plug, with pain by pressing on it, like a bad sore. *Plat.*
upon the affected portion, causes pain there and through the chest, exciting an irritation to cough, worse from every exertion and strain upon the spine. *Sec. c.*
pulsation in the, while sitting, as from a large artery. *Thuja.*
rigidity, great, of the; the least motion is exceedingly painful; the pain goes from the right to the left side of the back and shoots down to the legs. *Lobel. cer.*
sensation as if ants were creeping along the. *Agar. m.*
bruised, especially of the, or of all limbs, with vertigo. *Spig.*
in the back as if cold air were spreading over the whole body, from the. *Agar. m.*
of cold wind blowing on the. *Caust.*
of warmth along the whole, particularly between the shoulder-blades. *Myr. cer.*
in the back and, also up to the neck. *Carb. veg.*
sensitiveness, painful, of the, from the last cervical to the fifth dorsal vertebra; sensitive to touch and pressure. *Tell.*
stiffness, painful, in the, early on waking, with lassitude and heaviness in the legs; the spine is painful on bending backwards. *Calc. c.*
stitch, sharp, between the hip and the last vertebræ. *Kali bi.*
stitches in the. *Berb.*
and gnawing in the. *Hell. n.*
big, through the, going through the pit of the stomach. *Ratanh.*
cramplike, up and down the. *Physost. ven.*
in the, with anxiety. *Ruta. gr.*
jerking in the middle of the. *Phos. ac.*
on the left side, along the. *Evonym. europ.*
pressing in the, by walking in the open air. *Ign.*
pulsating, on the left side of the back or on the. *China.*
sharp as with needles in the, between the shoulder-blades. *Merc. sol.*
stitching, broad, in the, outwards; also stitching between the shoulder-blades. *Stann.*

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Spine, stitching in the, and simultaneously toward the left on the nape of the neck. *Sulph. ac.*
tearing down the backbone, as if gnawed by dogs. *Nat. sul.*
weakness, great, in the whole; pain between the shoulder-blades. *Hep. sul.*
left side of, pain, violent, shooting digging in the whole, to the small of the back, increased by inspiration, so as to bring tears into the eyes. *Acon.*
pains, tensive, and pulsation in swelling, extending down the, not tender to touch or pressure. *Sumbul.*
pressure, severe, on the back, alongside the. *Staph.*
stitches along the. *Evonym. europ.*
right side of, burning-gnawing pains near the. *Acon.*
feeling of soreness on the, below the loins, upon a spot not larger than the point of the finger, sensitive to pressure. *Lith. carb.*
Spinous processes, tenderness of the lower cervical and upper dorsal, with stiffness of the neck. *Sec. c.*

Spinal column (see also Spine).

Spinal column, burning and cutting in the lower part of the. *Lob. infl.*
as from a mustard plaster on the centre of the. *Tart. em.*
cold, sensation of, only along the. *Atrop.*
running upwards from the lower part of the. *Ox. ac.*
concussion, bad consequences of. *Hyper. perf.*
contraction painful in the. *Curare.*
curvature and swelling of the vertebræ. *Sil.*
of the vertebræ. *Sulph.*
dorsal vertebræ are painful to pressure; third dorsal vertebra very painful to touch, with oppression of chest. *Chin. sul.*
drawing in the right index finger and the. *Kali bic.*
dull sensation down the, as if overfilled with blood, sometimes with a peculiar lamelike sensation in the os coccyx. *Phos.*
gnawing in the, and cough. *Bell.*
heat, sensation of, alternating with cold, along the. *Opium.*
memory, sudden loss of, with vertigo, by pressure on the vertebræ. *Mosch.*

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Spinal column, motion of, every increased, causes violent pain in several places of the; turning motion of the body increases painfulness of the. *Agar. m.*
myalgia, spinal, with pain, soreness, tenderness along the. *Cimicif. rac.*
pain, drawing tensive, along the whole, and occasional flying pains along the spinal cord. *Agar. mus.*
in the whole, or heat and chilliness. *Glon.*
in, when stooping, as though it were too weak to support the weight of the body. *Agar. m.*
pressive, in the chest, through into the. *Mosch.*
stitching and gnawing in the. *Bell.*
violent, in the, in the region of the junction of the last short ribs. *Phos.*
painful pressing in the. *Acon.*
sensation as if it would break from within. *Kalm. lat.*
like trembling in the lower parts of the, in the jawbones and in the fingers, with abatement of strength. *Phos.*
sensitive in the mornings, so that even leaning back against a chair causes pain. *Agar. m.*
sensitiveness of the last cervical and first dorsal vertebræ to pressure. *Chin. sulph.*
stiffness in the. *Nit. ac.*
beginning in the region of the os coccygis. *Arsen.*
stitches in the, during motion. *Mephit. put.*
from within outward, as from a knife. *Bell.*
on breathing. *Dulc.*
pulsating, on the left, alongside the. *Dulc.*
stitching in the back, as if something stuck in the; worse on bending. *Eugen. jamb.*
in the lumbar region, with a sensation of uneasiness through the whole body. *Baryta carb.*
tearing down the, to the os coccygis, while sitting. *Dros.*
swelling and painfulness of the lowermost vertebræ. *Calc. c.*
turning, deepseated in the. *Ign.*
down the whole. *Mangan.*
tenderness to pressure along the. *Plant. maj.*
tension, drawing, after dinner, in the whole, as if in the spinal marrow, from the nape of the neck downward. *Ratanh.*
tingling in the. *Arn.*

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Spinal column, tingling in the, as if going to sleep. *Con. m.*
twitching of the, with one-sided paralysis, also especially of the right side. *Plumb.*
vertebræ sensitive to pressure. *Atrop.*
washing with a sponge, peculiar sensitiveness from, sensitive to the touch (spinal irritation). *Agar. m.*
weakness, painful of the, as if unable to carry the body. *Arn.*
weariness, great, with sensation as if the, were too weak to carry the body. *Ox. ac.*

Spinal Cord.

Spinal cord, affections of the, paralysis, spasms. *Form.*
and cerebellum, congestion of. *Gels.*
myelitis and softening of the; paralysis accompanied by tonic contractions. *Sec. cor.*
painfulness, peculiar, along the, when stooping. *Agar. m.*
pains, occasional flying, along the, and drawing-tensive pain along the whole spinal column. *Agar. m.*
paralysis from inflammation of the, stiffness of the limbs with paroxysms of spasmodic dyspnœa. *Ox. ac.*
paralyzes the nerves of the. *Kal. brom.*
reflex irritation of the. *Dioscor. vill.*
softening of the, general paralysis with anæsthesia acts on the nerves of voluntary motion. *Phos.*
tabes dorsalis. *Calc. c., Carb. veg., Caust., China, Cocc., Kali brom., Nat. m., Nux m., Nux vom., Ox. ac., Phos., Phos. ac., Sil., Staph., Sulph., Sec. c.*
Spinal marrow, seems to act prominently on the. Is not sufficiently proven, however, to be clearly defined as to its characteristic symptoms. *Picric ac.*
act prominently on the. *Acon., Ars., Atrop., Bell., Cic. vir., Cocc., Dulc., Gels., Hydrocyan. ac., Ign., Kali brom., Kali hydrocyan., Lach., Lact. vir., Nat., Nat. m., Nitr., Nux m., Nux vom., Phos., Phos. ac., Rhus t., Sec. c., Sil., Sulph., Ver. alb., Ver. vir., Zinc. m., Zinc. val.*
all affections of the, which manifest themselves by an increased reaction, especially in painful hysterical affections of the, with restlessness. *Kali hydrocyan.*
and brain, increased activity of the, with relaxation afterwards. *Atrop.*
and ganglionic system, considered to act prominently on the. *Kali hydrocyan.*

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Spinal marrow and voluntary muscles are principally affected. *Angust.*
pain in the, down to the cauda equina, and radiating through the os coccygis. *Lact. vir.*
from the occiput down. *Elaps. cor.*
paralysis of the, with tetanus. *Nitrum.*
sensation as if injected. *Arn.*
soreness of the, felt only on pressing with the finger. *Acon.*
medulla, painful tearing along the. *Camph.*
meningitis, during scarlatina or measles, eruption does not develop. *Dulc.*
or myelitis, from getting wet or sleeping on damp ground. *Rhus tox.*
with convulsions, jerking of the muscles. *Hyoscyam.*
with paralyzed legs. *Mercurius.*
with sudden shrill cries; on waking frantic spells from pain, traceable to dental irritation; fear of falling; pulsating fontanelle; red or sometimes sickly face. *Gels.*
myelitis after taking cold during menstruation. *Dulc.*
neuralgia. *Zinc. val.*
system and motory nerves, acts prominently on the. Affects, however, the brain also, as it seems secondarily. *Cocc.*
Cerebro-spinal congestion, cerebro-spinal disease and fever (spotted fever), in the first stage. *Ver. vir.*
meningitis, with insensibility; protruded, half-open eyes; dilated, immovable pupils, with blindness; roaring in the ears and deafness; distorted, bloated and bluish face; tongue paralyzed and protruded; loss of speech; retention of or involuntary discharge of urine and stool; rattling, slow respiration; irregular, feeble beat of the heart; general coldness, with heat in the head. *Hydrocyan. ac.*
with intense soreness and aching all over, vomiting, pain in the back of head and neck. *Eupat. perf.*
sequelæ of; severe pain in the neck, spine and elsewhere. *Zinc. val.*
system, said to act on the. Post-mortem examinations have shown slight redness of the meninges of the cerebrum and spinal marrow to exist after bite of *Crot. horr.*

Spinal Irritation.

Spinal irritation. *Tarantula.*

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Spinal irritation, acute or chronic, in robust or ruddy people, excitable and inclined to congestion, especially males, when the spinal disease has not been caused by loss of fluids or depressing causes; when the pains are mostly in the upper part of the spinal column, very severe, mostly aching, drawing or sticking, with only a slight feeling of weakness in the lumbo-sacral region, and at the same time pains only in the extremities, but no paretic conditions. The parts affected are extremely sensitive to pressure. *Guaco.* (Dr. Elb.)

affections, painful, caused by. *Atrop.*

cerebro-; staggering gait. *Cup. ars.*

depending on hæmorrhoids. *Æscul. gl., Æscul. hip.*

dorsal vertebræ are painful to pressure; third dorsal vertebra very painful to pressure, with oppression of the chest. *Chin. sulph.*

dull, distressing pain drawing around the whole pelvis; intense cramplike pain in the small of the back, sacrum and coccyx, relieved by standing or walking. *Bell.*

myalgia, with pain, soreness, tenderness along the spinal column. *Cim. rac.*

sensitiveness, peculiar, of the spinal column, when washing with a sponge. *Agar. m.*

paralytic symptoms; cold feet; constipation. *Silic.*

tenderness of the spine, between the fourth and fifth vertebræ, on touching, and immediate retching from slight pressure. *Cimic. rac.*

Nervous System.

Nerves, concretions in the, with deficient circulation. *Curare.*

of motion, exerts a sedative influence over the. *Ver. vir.*

voluntary, acts on the. *Phos.*

painful tension of all the, especially of the head, with nausea. *Nat. carb.*

tearing pains upwards, along course of the. *Asafœt.*

Nervous system, excessive tenderness and sensibility of the. *China.*

general insensibility of the, and want of reaction to given remedies. *Opium.*

state of overexcitement of the; aversion to music, pressure in the occiput, weariness and inclination to perspire, especially on the back, all disappearing on motion in the open air. *Sabina.*

trembling excitation of the whole. *Alumin.*

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Nervous system, unnatural overexcitability of the organs of sense and of the whole. *Coff.*
conditions and complaints. *Mosch.*
excitability, great. *Apis.*
trembling in the whole body. *Teucrium m. v.*
excitation, great, with one-sided paralysis, or paralysis from the small of the back downward, with numbness of the limbs. *Cocc.*
exhaustion, after the least excitement. *Cimic. rac.*
irritable, trembling. *Teucrium m. v.*
irritability. *Stann.*
great, with peculiar sensation of weakness. *Phos.*
irritation and spasms in teething children, or when the nervous system is irritated from disordered bowels. *Scutell.*
overexcitability, with sensation of great weariness in the eyes, arms, bend of the knees, etc.; oversensitiveness of all the senses. *Valer. off.*
prostration, great, with overexcitability of all the organs of sense, especially hearing and sight. *Nux vom.*
reflex irritation, from uterine or ovarian disease. *Scutell.*
vibrations, fine, as if extending into the interior of the bones, causing great anxiety. *Mephit. put.*
weakness. *Cocc., Hydrocyan. ac., Sulph.*
great, and general prostration. *Sil.*
weakness, with twitchings. *Squilla.*
Nervousness at night, with heat in the head. *Arg. nit.*
extreme sense of. *Acon.*
great excitation; runs over quick when he moves from one place to another; on ascending stairs takes two steps at once, thinking them to be but one, until he falls. *Stram.*

Neck.

Neck and arteries of the brain, throbbing in the. *Glonoin.*
and back, easy perspiration on, from the least motion. *China.*
twitching in the muscles here and there, especially in the upper arms and legs, or in the, towards the head. *Nat. m.*
of the neck, stiffness of the; also with jerking like pressure or with painful tension, especially on motion. *Dig. pur.*
and back part of the head, stitches in the. *Nat. m.*
and between the shoulder-blades, painful stiffness in the. *Angust.*

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Neck and cervical muscles, tonic spasms in the. *Cic. vir.*
and face, fingers and toes, contortion of the muscles of. *Ver. vir.*
and occiput, tensive sensation of numbness on, as if tightly bound. *Rat.*
and shoulder-blades, pressure in the. *Cocc.*
and throat, drawings in the muscles of the. *Acon.*
cramp in the. *Guarea.*
cramping in the muscles of the, on moving the head. *Cim. rac.*
electric shocks on the, is awakened as from (about the larynx). *Hipp. man.*
feel bruised, the muscles of the. *Gels.*
feels as if bruised and as if overtired from too great exertion. *Zinc. m.*
feels expanded; stiffness of the, also with headache. *Sil.*
heat and burning in the, mostly on one side. *Ign.*
flashes of, with drawing pain from the, over the back, with moodiness. *Nat. c.*
laming and pressing drawing in the; pulsating stitches in the. *Cocc.*
lancinations in the lateral portions of the, as if iron blades were run through them. *Curare.*
in the left side of the; stiffness in the right side. *Elaps. cor.*
left side, drawing in the muscles of the. *Tax. bacc.*
painful stiffness in the whole. *Lauroc.*
spasmodic stiffness of the; tension and drawing in the right side of the, while at rest or in motion. *Zinc. m.*
pain as if bruised in the, on bending the head backwards. *Hep. s.*
cutting in the, running from the left shoulder to the occiput. *Eupat. pur.*
in the, on bending the head backward, as if too short on stooping. *Lyc.*
in the, on both sides. *Lob. cer.*
in the, on moving it. *Sabad.*
in the, on moving the head. *Alumin.*
in the, while sitting, as if unable to carry the head. *Zinc. m.*
pressive, externally on the, on bending the head backward and on touching. *Bell.*
violent, in the, extending to the shoulders, as if the hair were drawn backward with great violence. *Nitr.*

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Neck, pains in, like those of cerebro-spinal congestion. *Gels.*
paralysis, sort of, of the muscles of the; the head sinks constantly forward as if it would drop off, with sensation of vertigo. *Lyc.*
pinching drawing up both sides of the. *Lyc.*
pressing in the muscles of the, on bending the head forward, with sensation of numbness of the spot. *Rhus tox.*
pressive drawing in the. *Ambra gris.*
pressure on the, as if the muscles were pressed by a bandage. *Dig. pur.*
pulsation, sensible, of the bloodvessels of the. *Bell.*
right side, burning and tension in the skin of the. *Tabac.*
drawing and stiffness of the, aggravated by touching. *Ol. an.*
and tearing in the, or burning and tension. *Grat. off.*
lameness in the muscles of the. *Ptel. trif.*
stiffness in the; lancinations in the left side of the. *Elaps. cor.*
tension and drawing in the, while at rest or in motion; spasmodic stiffness of the left side. *Zinc. m.*
and pain in the muscles of the. *Meph. put.*
sensation as if he had always a tight iron collar around him, with congestion and great heaviness of the head. *Curare.*
of fulness, tension and palpitation in the. *Glon.*
of heaviness in the muscles of the, obliging to bend the head backward. *Menyanth.*
of spraining in the, when turning or moving the head backward. *Lachn. tinc.*
of stretching in the, when at rest, with dryness in the throat. *Con. m.*
stiff, the head is drawn to one side (after diphtheria, scarlet fever, etc.). *Lachn. t.*
painfulness of the muscles of the, up to the occiput. *Hell. n.*
painfully. *Eugen. jamb.*
the muscles of the, feel, with tension as if too short, on bending the head. *Hyoscyam.*
stiffness of the. *Alum., Amm., Argent., Ars., Bell., Bry., Camph., Carb. an., Caust., Cham., Cic. vir., Cim. rac., Coloc., Crocus, Dig., Ign., Lauroc, Lyc., Merc., Nat. m., Phos., Phos. ac., Rhus. t., Sep., Sil., Staph., Sulph.*

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Neck, stiffness and pain in the, extending over the whole head down to the nose, and sensation as if the nostrils were pinched together. *Lachn. t.*
and paralyzed pain of the. *Chelid.*
and tension in the. *Caust.*
of the, as from a cold or with lameness. *Nat. carb.*
of the, in the morning. *Hipp. man.*
of the, clothing seems to be too tight. *Glon.*
of the, with tenderness of the lower cervical and upper dorsal spinous processes. *Sec. cor.*
of one side of the; also painfulness on left side, or painfulness of the whole neck, with dulness in the head. *Lyc.*
painful, in the, even into the shoulder-blades, especially on turning the head. *Bell.*
of the cervical muscles on moving the, and when yawning. *Cocc.*
of the, not allowing to turn the head. *Nat. m.*
also with sensation of heaviness, or with swelling. *Merc. sol.*
of the, following pain in the os coccyx. *Phos.*
rheumatic, of the, causing vertigo, especially on motion. *Verat. alb.*
tensive, about the. *Cham.*
stitches in the, on bending the head backward and forward. *Cocc.*
muscles of the, and drawing in the cervical vertebræ, on moving it. *Camph.*
of the, on moving it. *Dig. pur.*
stitching tearing in the muscles of the. *Cupr.*
tension, drawing from both shoulders, as if a ribbon were stretched across the. *Mang.*
in the, extending into the ears, by turning the head sideways. *Plumb.*
in the muscles of the; stiffness not allowing to turn the head. *Cic. vir.*
in the, while sitting or walking, worse on moving the head. *Nat. carb.*
of the skin of the. *Thuja.*
twitching drawing in the muscles of the. *Sulph.*
in the, with shaking of the head, or with jerking the same backward, early on rising. *Sep.*
weak and tired feeling in the; cannot support the head. *Glon.*
weakness of the; the head sinks forward. *Plat.*

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Neck, weakness of the muscles of the, as if unable to support the head, with pain on moving the head. *Stann.*
with heaviness of the head, which falls forward while sitting, or has to be leaned against something backwards or sideways. *Staph.*
they are painful on holding the head straight. *Cocc.*
weight, sensation of, on the, with a tenderness to the touch of the seventh cervical vertebra. *Carbol. ac.*
wry; head is turned backwards, and he falls down with loss of consciousness and stiffness of the body. *Curare.*
(spasmodic). *Æscul. glab.*
stiff, with lame, weak feeling in the nape of the. *Eupat. pur.*
Cervical vertebra, the first, cracking in the, on moving the head. *Puls.*
the last, and first dorsal, sensitive to pressure. *Chin. sulph.*
stitches, as with knives, between them. *Staph.*
the seventh, burning soreness as from an ulcer in. *Graph.*
tenderness to touch of the, with a sensation of weight on the neck. *Carbol. ac.*
vertebræ, cracking and creaking of the, especially on bending the head back and pressing it on the pillow. *Sulph.*
of the, while shaking the head quickly, audible to others. *Stann.*
on raising the head. *Ol. an.*
digging in the, at nights. *Mangan.*
drawing in the, and stitches in the muscles of the neck on moving it. *Camph.*
pain, bruised, in the lower. *Con. m.*
pain, pressive, in the left side of the. *Acon.*
painfulness of the, as if the flesh were beaten loose, and not bearing the least touch. *Nux vom.*
pressing and drawing in the. *Crot. tig.*
pressure along the, early in bed, when lying on the back. *Dulc.*
pulsation, painful, in one of the, on raising the head after bending it. *Nitr.*

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Cervical vertebræ, sensation of pressure, also with tension, as if in the. *Carb. veg.*
snapping of the. *Nit. ac.*
painful, of the, on moving the head. *Cocc.*
soreness in the joints of the, on bending the neck forward. *Dig. pur.*
stitching, stitching tearing, sharp pressing in the, early in bed, when at rest. *Ign.*
Back of the neck and shoulders, flashes of heat in the occipital region and the. *Æscul. h.*
very severe and constant aching pains in the. *Ver. vir.*
and small of the back, weakness, weariness and lameness of the. *Æscul. hip.*
cutting, with sensation of numbness in the, compelling to bend the head backward, which seems to be prevented. *Dig. pur.*
itching; perspiration on the. *Nit. ac.*
voluptuous, in the. *Mangan.*
pain in the. *Myr. cer.*
drawing in the, from a draught of moist air. *Nux mosch.*
dull, in the, extending to head and shoulders. *Diosc. vill.*
tensive, in the. *Cupr.*
extending to over the eye, with a stitch. *Sulph.*
pressing in the, while stooping, occupying the whole occiput. *Prun. spin.*
sensation in the, as if seized by a hand. *Grat. off.*
of lameness in the. *Cina.*
of a heavy load on the, with stiffness in all the limbs during and after walking in the open air. *Rhus tox.*
stiffness in the. *Lauroc.*
of the; also drawing, tensive, alternating with toothache. *Mangan.*
stitching in the; also drawing stitches, extending to between the shoulder-blades and into the back. *Puls.*
tearing, stitching and twitching from the, into the head. *Ratanh.*
Nape of the neck and between the shoulders, tension, with stitches, especially early in the morning on rising, with great sensitiveness to the touch, alleviated by walking. *Magn. sul.*

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Nape of the neck, stiffness of the, early, with drawing pain, better on moving about. *Alumin.*
and occiput, distressing pain in the, extending down the spine. *Æthus. cyn.*
and small of the back, sensation of stiffness in the. *Apis.*
drawing from the, into the back of the head, extending into the forehead. *Tereb.*
from the sacrum to the, causing the trunk to bend backward. *Ars.*
left side of, stitching in the spine and simultaneously towards the. *Sulph. ac.*
pain on, as if sprained, with sensitiveness to pressure, alleviated by turning the head. *Tongo.*
stiffness and soreness of the, on being touched. *Sanguin. can.*
muscles of the, are like paralyzed; weakness of the same, unable to support the head, which seems too heavy. *Ver. alb.*
pain, as if the flesh were separated in the, with feeling as if the neck would not support the head, and the head would on that account fall forward. *Acon.*
in the, with headache, followed by chilliness or heat, frequently alternating with anxiety about the pit of the stomach, with stitches in the small of the back, taking the breath away. *Sulph.*
intolerable, in the, upper part of the back and in the right hip-joint. *Ailanth.*
severe, in the, to deep into the back of the head, while sitting. *Nat. sul.*
slight aching. *Lob. cer.*
pressing in the, and on slightly percussing the spot, pain in the forehead and temporal bone. *Ran. bulb.*
pressure in the, as from a heavy load. *Coloc.*
painful, at the. *Elaps. cor.*
tensive, in the, not allowing to turn the head. *Ol. an.*
rigidity in the; pain from the, extending through the centre of the head to the forehead (headache). *Fluoric ac.*
sensation of stiffness in the, evenings, or on moving the neck; also drawing with numbness in the occiput. *Menyanth.*

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Nape of the neck painful, in the, as if asleep, early after rising, while the neck is kept still, disappearing on motion. *Spig.*
shootings in the, on moving the head. *Acon.*
stiff and painful, on motion. *Dros.*
feeling in the, in the evenings. *Acon.*
with chilly hands and feet. *Acon.*
stiffness in the. *Agar., Alum., Amm. m., Anacard., Angust., Ars., Baryta c., Bell., Calc. c., Carb. v., Caust., Dig., Dros., Graph., Ign., Kali c., Kali bi., Lach., Lauroc., Magn., Menyanth., Merc., Natr., Natr. m., Nitr., Nit. ac., Nux v. Phos., Phos. ac., Rhus tox., Sec. c., Sep., Sil., Spong., Stann., Staph., Sulph., Verat. alb., Zinc.*
in the, on motion. *Merc. sol.*
in the muscles of the. *Dulc.*
of the; also painful into the occiput. *Phos.*
painful in the; also with stitching. *Graph.*
stitches in the, at nights. *Nat. m.*

Shoulders.

Shoulder and wrist-joint, stitches from the, into the point of the elbow, like electricity. *Sabin.*
attacks of tearing in the; also at nights, with tingling down into the fingers; the arm cannot be moved on account of painfulness. *Magn. carb.*
joint, right, jerk in the, throwing the arm high up into the air, evenings. *Sil.*
left, and arm, heaviness of the, while walking, with tension in the upper arm. *Spig.*
numb, weak feeling in the. *Cupr., Ars.*
lame numbness of the. *Merc. prot.*
soreness and lameness of the, at nights, when lying on the left side. *Merc. prot.*
pain, drawing, from the, to the fourth finger. *Chelid.*
paralytic-like, in the. *Æthusa cyn.*
pain, drawing, from the, to down into the root of the hand, or during the night extending into the fingers, which then become numb and go to sleep. *Pulsat.*
from the, extending into the chest, as if circulation were impeded by a tight cord, worse from cold and in the open air. *Sabin.*
pressing downward of the, as from a heavy load while sitting. *Staph.*

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Shoulders, pressure in the, extending to the head, with sensation as if she could not lift anything heavy, or from the right shoulder to the elbow, on uncovering and cooling off, mostly nights. *Sil.*
on the, as from a heavy load. *Anacard.*
right; lameness and stiffness of the. *Merc. prot.*
pain, dull aching, in the, alternating with a dull aching pain in the right hip, which passes down the limb. *Plant. maj.*
tremulous clucking on the. *Puls.*
vibrations in the. *Spig.*
stitching, sore pressive, in very small spots on the; painful twitching in the armpits. *Val. off.*
tearing and burning in the, with lameness of the arm, mostly during the cold season, when at rest and in the warmth of the bed. *Rhus tox.*
twitching in the. *Sulph.*
of the muscles of the. *Spig.*
and back, pain as from overlifting. *Rhus tox.*
drawing in the. *Dros.*
of the neck, very severe and constant aching pain in the. *Ver. vir.*
and hips, pain, shooting, aching in the. *Ailanth. gl.*
and shoulder-blades, contractions and twitching sensation in the. *Curare.*
and spine, pain across the, which compels him to stoop and prevents him from walking erect, *Cann. ind.*
and upper arms, feel as if gone to sleep, only in bed. *Merc. sol.*
arms, and back, digging drawing in the, with bruised pain of the whole body, early in bed, preventing sleep. *Rhod.*
between the, and down the back, tension. *Magn. m.*
and in the neck, pains on both sides; stitching pain in right back, passing from the eighth rib downwards. *Lob. cer.*
and nape of the neck, tension with stitches, especially early in the mornings on rising, with great sensitiveness to the touch, relieved by walking. *Magn. sul.*
burning, under the right shoulder, in the small of the back and on the buttocks, evenings in bed; also on the back with biting or corroding like. *Sulph.*
burning, with bruised sensation, or on the back with itching, or with stitching in the whole back as if in the spinal marrow, and then burning stitches between the shoulders, alleviated by motion. *Magn. m.*

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Shoulders, between, cutting, with burning, as if it were to cut through in that spot. *Sulph. ac.*
in the lumbar region and small of the back, pain. *Kobalt.*
pain, bruised. *Acon.*
contractive. *Graph.*
pulsative, passing from one to the other, and then to back of the right arm in the extensor muscles, darting from above toward the elbow. *Plant. maj.*
throbbing. *Merc. prot.*
pressure. *Elaps cor.*
shuddering and coldness at every motion, with weakness towards evening, with staggering and stitches in the temples, forehead and vertex. *Tabac.*
stabbing as with knives, awakes him from sleep; it shortens the breathing, appears when lying on the back, is alleviated when lying on the right side. *Nitr.*
stitches, as if stabbed with knives, evenings while sitting. *Nat., Sil.*
on every motion. *Canth.*
to draw into the lumbar vertebræ, on deep inspiration, taking the breath away. *Prun. spin.*
stitching, tearing or pain, in extending to the small of the back and os sacrum. *Zinc. ox.*
dull pain in the back of the neck extending to head and. *Dioscor. vill.*
lame sensation in both. *Picric. ac.*
stitches on top of the, at every inspiration. *Hyper. perf.*
Shoulder-blade, pain in the, going later into the small of the back. *Tax. bacc.*
severe shooting, extending from front part of the thorax to the. *Zizia aur.*
left, and left breast, stitches in, at intervals. *Hipp. man.*
burning in the, as from hot water. *Nat. m.*
pain under the, as binding as if a plug were pushed in. *Prun. spin.*
pressing, with sensation of coolness in the lower part of the. *Plat.*
pulsation, clucking, in the, as if the blood were pressed, drop by drop, through a valve. *Spig.*
stitches in the, or between both. *Plumb.*
dull, in the. *Anacard.*
tearing in the, as after a cold. *Sp.*

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Shoulder-blade, left, twitching over the. *Squilla m.*
right and upper arm; cold drawing in the muscles of, at the elbow it changes to a sensation of numbness, extending down to the fingers. *Phos.*
burning in the. *Lachn. tinct.*
itching along the. *Lauroc.*
forklike drawing from the, through the arm down to the hand. *Plat.*
pain as of something sticking under the, very sensitive while sitting. *Ox. ac.*
drawing in the region of the, as if the nerves and vessels were stretched. *Coloc.*
dull aching, under the. *Zizia aur.*
severe, under the, worse when moving or breathing. *Cupr. ars.*
tensive, under the, especially while lying on the left side. *Sep.*
throbbing, on the. *Mrc. prot.*
pressing on the, like after carrying a load. *Plat.*
pressure under the, turning into stitches on taking a deep breath. *Cupr.*
stitches, fine, burning, in and behind the, extending towards the ribs. *Asafœt.*
stitching in the, burning and pulsation under the same. *Tabac.*
in the, out through the shoulder, early mornings. *Tongo.*
tearing in the, also with sensation of something alive in it, lifting the same up, after which burning in the abdomen and then stitches in the shoulder-blade. *Plumb.*
tension, pressive, under the, down the back and towards the armpit. *Zinc. m.*
between the, and in the back, painful stiffness, especially when rising from a seat. *Caust.*
and in the neck, painful stiffness. *Angust.*
spine, tearing, evenings in bed. *Cocc.*
same; stitches with stiffness of the neck. *Nit. ac.*
burning as from red-hot coals. *Lycop.*
hot sensation down the back. *Glonoin.*
digging and burning, much worse when at rest; is felt but very slightly during motion. *Lauroc.*
drawing downward. *Grat. off.*
violent, down the spinal column, evenings. *Bell.*

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Shoulder-blades, drawing pain also while sitting; on turning it changes to severe tugging. *Ver. alb.*
and great weakness in the whole spine. *Hep. sul.*
as from overlifting. *Bell.*
bruised. *Hell. n.*
crampy during motion. *Ipec.*
deepseated, burning. *Ox. ac.*
drawing, down to the sacrum. *Chelid.*
tearing asunder or bruised; while walking tearing under the. *Sil.*
tensive, or drawing in one of the, with jerking, or between the two and in the chest. *Sep.*
pressing inward. *Lauroc.*
pressure as from a stone. *China.*
sensation as if wet with cold perspiration, the skin being dry and cool. *Lachn. t.*
as from an icy-cold hand. *Sep.*
of warmth along the whole spine particularly. *Myr. cer.*
stitches. *Can. in., Indigo.*
burning. *Thuja.*
tingling. *Sabad.*
jerking like, in the dorsal vertebræ. *Dig. pur.*
on breathing. *Caps.*
sharp, as from needles in the spine. *Merc. sul.*
taking the breath away. *Carb. veg.*
stitching, also broad stitching in the spine outward. *Stann.*
tension, most on motion, which compels to stoop over while walking. *Colch.*
tearing, also drawing together of the same. *Rhus tox.*
stitching, worse on inspiration, with tension on the spine, on moving the trunk. *Nat. c.*
tension and drawing. *Nat. c.*
painful. *Rhus tox.*
and shoulders, contractions and twisting sensations in. *Curare.*
and back, pain in the, extending into the neck, with tension. *Coloc.*
and neck, pressure in the, stitches in, from the right to the left. *Cocc.*
bubbling, like welling up, especially under the, in the back and on the left upper arm. *Squilla.*
drawing in the, going into the back of the neck and head, where it causes vertigo, as if she were to fall down. *Sil.*

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Shoulder-blades formication and tingling in the. *Anacard.*
pain and tearing in the, as if broken, with stiffness of the back and neck. *Nat. m.*
in the, on moving, and still more on letting the arm hang down. *Ign.*
sticking in both, in the right temple, right side of the chest, left ear, along the outer borders of both hands and little fingers. *Merc. prot.*
pressing under the, painful on motion. *Apis.*
pressure as from a load in the, more marked when at rest than while in motion, with sensation of swelling in them, and a pain, taking the breath away, from leaning against something. *Sil.*
stitches in the. *Hyoscyam., Nitr.*
like electric shocks, from the small of the back to the. *Evon. europ.*
with tearing in the. *Anacard.*
tensive cutting in the. *Rhus tox.*
vibration in the skin of both. *Sil.*
Scapular region, over the entire, severe pain as if bruised. *Merc. prot.*

Back (see also shoulder-blades and between the).

Backache, attended with aching in the legs and knees. *Æscul. hip.*
cannot work on account of. *Asafœt.*
constant, affecting the sacrum and hips; very much aggravated by walking and stooping forward. *Æscul. hip.*
during the night; also tensive squeezing. *Arg. nit.*
on stooping, feels as if dislocated when misstepping; stiffness in the back. *Sulph.*
with nausea and tenesmus. *Hippom. man.*
with seminal emissions. *Kobalt.*
Back, along the whole, on both sides of the spine, a peculiar weakness, as if she could not lie on it. *Apis.*
and all the limbs, pain in the, with paralysis. *Meph. put.*
and extremities, inclination to twist the. *Curare.*
and hips are very stiff and ache severely. *Bapt.*
pain in the, with coldness of the limbs. *Pall.*
and legs ache severely. *Ham.*
tearing in the, evenings in bed. *Sulph.*
weakness in the; feel as if paralyzed; walks with difficulty. *Sil.*

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Back and limbs, bruised sensation in, worse on pressure. *Ptel. trif.*
pain in the. *Ipec.*
sensation of numbness and weakness in the. *Ox. ac.*
and loins, most violent pains in the. *Plumb.*
and neck, drawing and tension, with stiffness in the. *Sulph.*
easy perspiration on the, from the least motion. *China.*
stiffness of the, with tearing and pain in the shoulder-blades, as if broken. *Nat. m.*
twitchings in the muscles here and there, especially in the upper arms and legs or in the, towards the head. *Nat. m.*
and sacrum, trembling and weakness in the. *Cim. rac.*
and shoulders, drawing pain in the. *Dros.*
flushing heat in the. *Lob. cer.*
pain as from overlifting in the. *Rhus tox.*
and shoulder-blades, sensation of a cramplike drawing to and fro in the muscles of the, and of the limbs, as of something moving in them. *Nux vom.*
and small of the back, burning drawing in the. *Zinc. m.*
drawing in the, early in bed with pain, not allowing her to move after rising. *Hep. s.*
pain in the, alternating with pulsation, alleviated on lying down. *Kali carb.*
formication in the. *Phos. ac.*
pain as if bruised in the, so violent that he cannot move. *Nux vom.*
pains, especially in the, wandering through the whole body; obstinate, periodical, returning every ten to twenty minutes, with slow contraction of the limbs. *Sec. c.*
paralysis of the, or stiffness, not allowing to stoop. *Kali carb.*
pressing, gnawing and tearing in the, while walking, after rising from a seat. *Canth.*
stitches in the. *Bry.*
weakness, early on rising, like paralysis in the; sometimes also over the abdomen. *Nat. m.*
great in the, with pressing headache mornings. *Coloc.*
and thighs, sensation of numbness, tingling and prickling, as if gone to sleep, in the. *Ox. ac.*
and upper part of the abdomen, drawing tearing in the. *Stram.*

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Back and spine, sensation of warmth in the; also up to the neck. *Carb. veg.*
arms, and thighs, creeping as of insects over the. *Acon.*
beating and jerking in the, at nights from evening till morning, while asleep, taking the breath away. *Staph.*
in the; burning in the, while walking and getting warm in the open air. *Sil.*
bent backwards. *Ign.*
like an arch. *Cic. vir.*
spasmodically. *Opium.*
bubbling, like welling up in the, under the shoulder-blades, on the left upper arm. *Squilla.*
burning in the. *Ars., Chel., Lyc.*
from the os coccygis upwards. *Mur. ac.*
heat, frequent change of, with an overrunning of cold over the, the cold predominating. *Atrop.*
hot sensation on the whole. *Merc. sol.*
chilliness in the, lasting several days. *Lyc.*
chills and chilliness running up the. *Gels.*
frequent, through the, with debility. *Sumbul.*
running down the. *Coff.*
up and down the, as if ague were coming on. *Bapt.*
chilly sensation in the. *Sep.*
cold running over the, sensation of. *Rhus tox.*
coldness, icy, in the, especially between the shoulders, changing into itching. *Amm. m.*
in the, pain in the back, with chilliness, icy-cold feet and strangury. *Elaps. cor.*
of the, with dry heat on the small of the back and thighs. *Sulph.*
sensation of, in the. *Sec. c.*
contraction in the, down to the small of the. *Mezer.*
cramps in the, with pressing and drawing. *Con. m.*
creeping sensation, gentle, in the, as if a soft air were blowing through it. *Sec. c.*
cutting like drawings. *Cupr.*
digging, cutting and pressing in the. *Sep.*
painful, and cramps in the, causing him to change position every moment. *Curare.*
drawing and drawing pressure in the, on bending forward. *Caps.*
down to, while sitting, disappearing on motion. *Bry.*
in the, arms feel heavy. *Carb. veg.*
especially between the shoulders, upward and pulsating, or evenings while sitting, or also

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simultaneously in the lumbar muscles (while moving in the open air and with weariness and heaviness in the body). *Terebinth.*

Back, drawing in the upper and lower extremities, the fingers and in the, as having taken a cold. *Dig. pur.*

tearing in the. *Opium.*

towards the shoulders, drawing in the loins, up the back, with laming stiffness. *Nux vom.*

feels as if beaten. *Acon.*

bruised, when turning on it. *Nat. sul.*

lame, with soreness in the inguinal regions and pain in the hips; knees are weak, lame and painful. *Diosc. vill.*

formications in the. *Evony. europ. Graph.*

tingling and itching on the whole. *Nat. carb.*

heat, flashes of, with drawing pain from the neck over the, with moodiness. *Nat. carb.*

running down the, burning on the, with biting or corroding like, also between the shoulders, under the right shoulder, on the small of the back and on the buttocks, evenings in bed. *Sulph.*

sensation of, down the, early on waking. *Con. m.*

up the. *Æthus. cyn.*

sudden flying in the, tingling in the. *Apis.*

heaviness in the, early on waking, almost as if the back had gone to sleep, chilly sensation in the. *Sep.*

heaviness and tearing in the, chilliness with red cheeks, without heat, with sensation of trembling in the whole body, tearing and stitching from the calves of the legs to the toes, evenings, with twitching in the feet while standing and sitting, then a rising into the pit of the stomach, with tension and contraction under the ribs, with oppressed breathing and frequent stitches through the whole chest and upper part of the abdomen. *Sulph.*

hot sensation in the, burning between the scapulæ. *Glonoin.*

itching on the, evenings in bed. *Merc. sol.*

stitching burning on the, aggravated after scratching. *Eug. jamb.*

jerking, painful, in the, with every attempt to swallow, also with incomplete eructation, sometimes also without the attempt to swallow, when at rest, but always with oppression of breathing afterwards. *Petrol.*

lameness of the. *Cupr. ars.*

great and weakness of the. *Æscul. gl.*

sensation of, in the. *Kalm. lat.*

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Back, left side of the, sensation as if chafed, while sitting, with burning stitches on the back. *Plat.*
stitches in the muscles of the. *Dros.*
loses flesh, especially on the. *Tabac.*
numbness of the lower parts of the, with lumbago, sensation of weight in the pelvis. *Gnaphal.*
pain in, as if a hot iron were being thrust through the lower vertebræ. *Alum.*
as if broken, with bruised pains through hip and shoulders, worse when lying. *Nat. m.*
as if from a bruise, from the loins through the, into the nape of the neck. *Acon.*
pain in the back and lower extremities. *Eup. perf.*
bruised, particularly early. *Dros.*
burning in the. *Cocc.*
bruised in the, also simultaneously in the shoulder or in the abdomen and then mostly brought on by motion. *Stram.*
worse from touching and pressure. *Nux vom.*
continuous, in the, towards above. *Tax. bacc.*
contractive, in the, drawing towards the sides. *Nux vom.*
crampy, wandering in various directions through the. *Lact. vir.*
cramplike, in the, also at intervals. *Euphras. off.*
cutting, in the, under the short ribs, cutting forwards and upwards. *Lob. cer.*
drawing, in the. *Val. off.*
and especially in the spine, down to the thighs. *Mosch.*
drawing, in the, early, when standing and lying, or whilst talking, walking or bending over, disappearing on lying down, after first being aggravated. *Cocc.*
in the muscles of the, with stitches and stiffness. *Chelid.*
dull aching in the, extending to the occiput, chilliness and chills running up the back. *Gels.*
heavy aching in the, under the false ribs, worse at nights in bed, increased to cutting pain by deep inspiration and by turning in bed. *Lobel. cer.*
in the. *Sep.*
in the, after a short walk. *Plat.*

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Back, pain in the, and afterwards also pain in the right side of the abdomen after supper, with frequent spasmodic twitching of the whole body. *Sulph.*
in the, arresting the breathing, pinching in the centre of the. *Cann. sat.*
in the, as after long bending forward, evenings, immediately on lying down. *Thuja.*
in the, as from overlifting, while standing. *Cocc.*
in the, at nights, worse when at rest. *Kreasot.*
in the, by pressing with the hand on the chest. *Puls.*
in the, drawing into the shoulders and small of the back. *Lyc.*
in the, hip-joint, on bending the. *Puls.*
in the, in the bent forward spine, early on waking, at the beginning of motion, disappearing afterwards. *Sil.*
in the, like tiredness from walking, alleviated by leaning the drawn-in back against something. *Sabad.*
in the, on bending forward. *Nitrum.*
in the, shoulder-blades, and extending into the neck, with tension. *Coloc.*
in the, violent, gradually descending into the thighs, and constantly increasing. *Ox. ac.*
in the, when riding in a carriage. *Nux mosch.*
in the, with bellyache in the umbilical region after it, bruised pain in the back (pressive drawing), also especially while and after walking, disappearing by pressing on it. *Ver. alb.*
in the, with headache, drawing or tearing in the limbs or joints, also with unbearable tingling, anxiety and insensibility of the head and feet. *Sec. c.*
in the, worse when lying down, dull aching pain in the region of the kidneys. *Physost. ven.*
neuralgia in the. *Ver. vir.*
neuralgic-like, from below upwards, mostly on the left side of the, and hips. *Eupat. pur.*
nocturnal, in the. *Nat. m.*
lumbar region, when lying on the. *China.*
paralytic, and paralysis of the small of the back and. *Cocc.*
pulsating, in the, alongside the centre of the spinal column. *Mezer.*
sharp, in the left side, sometimes extending to the right shoulder, then to the right side, then spreading over the upper part of the. *Plant. maj.*

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Back, pain, spasmodic, pressive and drawing, which starts from the, and extends to the middle of the chest, and into the œsophagus. *Agar. m.*
stinging, in the. *Cham.*
stitching, in the right side of the, pressing from the eighth rib downwards, pain between the shoulders, and in the neck on both sides. *Lob. cer.*
sudden, violent in the, on bending forward, as from a blow, with stitching-tearing pain, so violent as if he should sink down and lose his breath, relieved by pressing the back against a hard object. *Sep.*
tearing, in the, sensation of warmth in the. *Hyoscyam.*
tension, in the. *Nat. m.*
at night, worse on turning tne body. *Hep. s.*
when at rest, very much aggravated by raising the arms. *Con. m.*
pressing and boring at a small spot in the, while sitting. *Thuja.*
and burning in the, alleviated by walking, aggravated by sitting and lying in bed. *Nitrum.*
bruised feeling in the lower part of the, with hard pressure in the pit of the stomach. *Coloc.*
from both sides of the, towards the front. *Ol. an.*
in the, also burning pressing in the spine. *Zinc. m.*
in the, as if the spine were broken, early, when bending and straightening. *Ver. alb.*
in the muscles of the. *Euphorb.*
in the, while sitting and walking. *Euphras.*
upwards in the. *Puls.*
pulsation in the; chilliness in the, lasting several days; burning in the. *Lyc.*
right half of the, sore stitches on. *Plat.*
rigidity, forward and backward bending of the. *Ipec., Sec. c.*
sensation as if a piece of ice were lying on the, between the shoulders, followed by a chill, with gooseflesh all over. *Lachn. t.*
constant disagreeable, over the whole, especially in the spinal column. *Agar. m.*
in the, as if cold air were spreading over the whole body, from the spine. *Agar. m.*
in the, of want of cohesion, with weakness in the knees, stooped walking, with cough and emaciation. *Lach.*
of heat running up the. *Lauroc.*
of soreness on the. *Thuja.*

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Back, sensation of soreness across the bowels, sides and. *Nat. sul.*
and great weakness in the. *Agar. m.*
shootings in the. *Acon.*
shoulders and arms, digging drawing in the, with bruised pain in the whole body, early in bed, preventing sleep. *Rhod.*
shoulder, running down the. *Chelid.*
small of the back and shoulder-blades, bruised sensation of the. *Merc. sol.*
painful spot in the, especially on touching. *Stram.*
spasmodic drawing in the, from behind forward, also into the genitals, or down into the thighs. *Kreas.*
stiffness in the. *Acon., Nux vom., Sep., Sulph.*
and constriction, feeling of, in the muscles of the, crick in the. *Cim. rac.*
and laming stiffness in the, small of the back and neck, not allowing to straighten one's self after sitting. *Sil.*
and painfulness of the whole, on moving the shoulders. *Cocc.*
constrictive pressure in the, burning pain in the region of the kidneys. *Guarea.*
in the, not allowing to stoop, or with paralysis in the back and small of the back. *Kali carb.*
painful of the, and between the shoulder-blades, especially when rising from a seat. *Caust.*
stitches in the. *Apis, Laurocer.*
fine, towards the ribs, frequently in the centre of the, between the shoulder-blades, taking the breath away. *Alumin.*
in the, aggravated by motion or respiration. *Cim. rac.*
in the, also itching stitches in the muscles of the, vibration in the muscles of the. *Spig.*
in the, also up through the chest, or on the left side along the lumbar vertebræ, while walking and sitting. *Thuja.*
in the, and between the shoulder-blades. *Hep. s.*
in the centre of the, as also in the right lumbar region, where it disappears by pressing on it. *Plumb.*
in the, extending to across the chest. *Puls.*
in the, while stooping. *Rhus tox.*
pressing in the, more while walking than sitting, and more while straightening than stooping. *Rhus tox.*
pulsating, on the left side of the, or on the spine. *China.*
stitching in the, as if something stuck in the spinal column, worse on bending. *Eug. jamb.*

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Back, stitching in the, through to the chest (on inspiration or evenings) or near the right shoulder-blade, preventing respiration; mostly on motion. *Mezer.*
in the, towards the right side, also tensive or pressive, and especially while lying (mostly in the small of the back and with difficult breathing). *Tarax.*
outward, from the, or twitching stitches in the left side of the, and simultaneously in the left thigh, or burning-digging stitches in a small spot. *Stann.*
pressure in the. *Thuja.*
tearing and stitching in the. *Sil.*
or pulsating pressure in the, with chilliness, later transforming into pressive headache, with heat in the. *Sil.*
pressure in the, by bending forward and backward, and while walking, as if the lumbar vertebræ were breaking asunder. *Chelid.*
tension between the shoulders and down the. *Magn. m.*
in the, extending to between the shoulders and into the neck. *Lauroc.*
in the, with pinching in the navel. *Nicc.*
in the muscles of the, with difficulty in raising the arms. *Angust.*
of the muscles of the, and chest at the shoulder-joints, as if they were too short, on raising the arms. *Hyoscyam.*
throbbing and severe pulsating in the, mostly when at rest and after mental emotions, alternating with tearing, now on the left shoulder, then between the shoulder-blades, also at nights. *Baryt. carb.*
tingling numbness and want of sensation in the, want of feeling, extending to the tips of the fingers and toes. *Sec. c.*
tired feeling in the. *Pall.*
tiredness, painful, in the, after eating and while sleeping. *Tart. em.*
trembling in the. *Cocc.*
in the, during fever. *Eup. perf.*
twitching and jerking along the, like electric shocks. *Angust.*
in the, opposite the pit of the stomach, aggravated by pressure, which also causes pain under the hypochondria, going thence into the abdomen. *Ruta gr.*
in the muscles of the, pain in the, extending around to the front. *Myg. las.*

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Back, warm air, agreeable sensations of, ascending the. *Ol. an.*
warmth, sensation of, in the lower part of the, as from a mustard plaster. *Colch.*
weak feeling in the, worse from mental annoyance. *Calc. c.*
weakness, paralytic, attacks of, with pain in the. *Cocc.*
weariness in the. *Nat. m.*
in the, with heaviness of the head. *Lob. infl.*
Dorsal muscles, lancinations in, from the occiput to the sacrum. *Elaps. cor.*
region, sharp pain in the. *Dioscor. vill.*
vertebra, first, and the last cervical, are sensitive to pressure. *Chin. sulph.*
stitches, as with knives, between. *Staph.*
pain in the eighth, and in the back under the short ribs, increased by movement and deep inspiration. *Lob. cer.*
third, very painful to the touch, with oppression of the chest. *Chin. sul.*
the twelfth, and first and second lumbar vertebræ painful, very sensitive to the touch, with coldness in the gluteal muscles and formication in the feet. *Agar. m.*
the last, pain at. *Zinc. m.*
vertebræ, burning soreness of the upper. *Nat. m.*
curvature of the. *Calc. c., Rhus tox.*
jerking-like stitches between the shoulder-blades in the. *Dig. pur.*
jerks in the. *Cic. vir.*
pain, dull, in the region of the lower and upper lumbar. *Cim. rac.*
in the, as after a pill. *Ruta gr.*
severe drawing tension, mornings, on bending the head forwards, at the points of the spinous processes of the upper three. *Cim. rac.*
spasmodic, in the, early in bed, lying on the back; stitches while sitting. *Euphorb.*
violent, in the upper, down the spine. *Kalm. lat.*
pressing sensation on the. *Nux v.*
soreness and drawing pressure in the upper, severe stitches in the same, upwards. *Staph.*
spinal processes of the, between the shoulder-blades, are very sensitive to the touch, also the muscles between the spinal column and left shoulder-blade. *Phos.*
stitch, continuous, in the, while standing. *Nitr. ac.*

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Dorsal vertebræ, stitches in the, aggravated by inspiration. *Sabin.*
in the lower. *Grat. off.*
tearing pressing in the muscles of the loins and lower, especially on bending the body. *Sabin.*
Small of the back, aching, dull, heavy in the, relieved by rest, increased by motion. *Cim. rac.*
after evacuation of the bowels, throbbing in the. *Alumin.*
after sensation of heat, tearing pains across the, with fulness of the joints of the legs, extending to all parts of the body. *Ham.*
after vomiting, early, mornings, the throat feels as if scalded, and the, seems affected, with accelerated pulse and headache. *Therid. cur.*
and back, burning drawing in the. *Zinc. m.*
drawing pain in the, alternating with pulsation, alleviated in lying down. *Kali carb.*
feel stiff, as from overlifting. *Prun. spin.*
formication in the. *Phos. ac.*
gnawing pain in the, evenings, in bed, as if in the spinal marrow up to the neck; the pain does not allow to sleep, with constant tossing about. *Magn. m.*
pain, as if bruised in the, so violent that he cannot move. *Nux vom.*
painful stiffness in the. *Lauroc.*
in the, preventing him from walking straight. *Bry.*
paralytic pain and paralysis of the. *Cocc.*
pressing, gnawing and tearing in the, while walking, after rising from a seat. *Canth.*
stitches in the. *Bry.*
weakness, early, on rising, like paralysis in the, sometimes also near the abdomen. *Nat. m.*
of the neck, weakness, weariness and lameness in the. *Æscul. hip.*
and bends of the knees, great weariness in the, sensation of weakness in the small of the back and a quickly passing-off weariness in the legs. *Zinc. m.*
and buttocks, numbness of the, twitching of the muscles on the right nates. *Spong.*
and calves of the legs, bruised pain in the, with weariness in the legs. *Nux mosch.*
and fingers, stiffness in the. *Hipp. man.*

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Small of the back and hip-joint, painful stiffness in the, as if from paralysis, in movement. *Acon.*
and hips, tearing pain in the. *Æscul. hip.*
twitching in the. *Ratanh.*
and knees feel as if bruised while lying still in bed, disappearing on rising and walking about. *Puls.*
and legs, stitching pain in the, on being touched. *Merc. sol.*
weakness in the, can scarcely stand alone. *Sulph. ac.*
and limbs, great stiffness of the, especially after sitting. *Sil.*
and lower extremities, painful lassitude in the. *Coloc.*
and nape of the neck, sensation of stiffness in the. *Apis.*
and os coccyx, intense crampy pain in the. *Bell.*
and os sacrum, pressing bruised pain in the, early, in bed, while lying on the back. *Ign.*
tearing stitching or pain between the shoulders, extending to the. *Zinc. ox.*
and shoulders, pain in the back, drawing into the. *Lyc.*
and thighs, dry heat on the, with coldness of the back. *Sulph.*
stitching pain in the, with unsteadiness in the small of the back, in the knees and feet. *Merc. sol.*
and through the hips, sharp drawing in the. *Nat. m.*
back and hips, bruised sensation in the, early, on rising, disappearing on motion. *Ratanh.*
and in the joints, drawing and tension in the. *Amm. c.*
bones of the, feel as if broken. *Cocc.*
burning in the immediate neighborhood over the. *Phos. ac.*
spot in the lower part of the. *Rhus tox.*
chill, running from the, up the nape of the neck. *Hyoscyam.*
chilliness in the. *Lyc.*
contraction or pulsation, cramplike, ascending from the thighs into the. *Ruta gr.*
cracking in the, while walking. *Zinc. m.*
creaking in the, down to the arms; drawing pain in the; also with weakness. *Sulph.*
cutting, violent in the, on the least motion, extending

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into the calves of the legs and feet, so that he cannot either walk or stand or lie down. *Zinc. m.*

Small of the back, digging in the, as if something would come out. *Kreosot.*

drawing downward in the, while standing and moving, with bruised pain. *Capsic.*

from the, down the thighs, when at rest, with stitches in them when moving; they are relieved by pressure. *Dulc.*

to the shoulders. *Indigo.*

in the. *Lact. vir.*

in the, worse during motion. *Colch.*

feels as if bruised, especially when lying quietly on the back or sitting still, relieved when lying on something hard or from exercise. *Rhus tox.*

as if in a vice, very painful. *Kali hydroiod.*

as if on the stretch; also in the hips, with pain on touching. *Nux vom.*

numb. *Ox. ac.*

flashes of heat, from the, in all directions. *Bapt. t.*

gnawing in the, while walking; stitches in the, towards evening. *Stront.*

on a little spot in the; when pressing on it, only bruised pain. *Sulph.*

heaviness, changing about, now in the, then in the hips. *Magn. sul.*

is obliged to walk stooping, and gets painful stitches in the, by accidentally kicking the foot against something. *Sep.*

is painful, when lying on the back; the hip is painful when lying on the side. *Rhus tox.*

lameness, sensation of, in the, extending into the hips. *Zinc. ox.*

on stooping, it shoots like a stitch into the, with tension after it, as if the parts should be torn, after which, in bed, a severe shaking chill. *Sabin.*

pain, aching, across the, and in the lower extremities. *Carbol. ac.*

and sensation of lameness in the. *Hyper. perf.*

in the, worse when sitting, going off when rising, walking or lying down. *Kobalt.*

and numbness in the, worse when sitting or lying, in the morning, when awaking (during menstruation). *Berb. vul.*

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Small of the back, pain and weakness in the, while walking. *Sep.*
as if broken, up to between the shoulders. *Kreosot.*
as if bruised, in the. *Alumin., Arn., Cina, Lam. alb.*
as if lame; stitches; cutting; strong pulsation in the. *Nat. m.*
as if from a fall or blow in the. *Ruta gr.*
as if pounded and broken, in the, mostly when at rest or evenings. *Nux mosch.*
as if the flesh were loose in the lower part of the. *Lyc.*
between the shoulders, in the lumbar region and. *Kobalt.*
bruised in the; also with sensation of soreness, or over both hips, with sensitiveness of the parts to the touch. *Magn. m.*
in the, not allowing to lie still, at night or in the daytime, mostly by sitting in a bent position. *Kali hydroiod.*
in the, when sitting still, or disappearing on touching. *Menyanth.*
in the, while walking, standing or lying, with sharp pressure in the lumbar vertebræ, extending to the lower extremities and compelling to limp. *Hepar s.*
commencing at the right side of the, going down to the os ischium, very sore to the touch. *Lobel. cer.*
constant, in the, obliging to draw it inwards, which then causes voluptuous pain in it. *Sabin.*
contractive, in the. *Hell. n.*
in the, and afterwards pressure as from a thumb and tingling in it, with increased pain. *Menyanth.*
in the, most severe after stool. *Tabac.*
cutting, in the. *Guarea.*
in the, so violent, that he cannot either sit or stand, but has to remain in bed, and even there he cannot but move with difficulty. *Tax. bacc.*
drawing and pulsating in the. *Cim. rac.*
in the. *Tereb.*

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Small of the back, pain, drawing, in the; also down into the os coccygis and thighs, preventing from standing erect, after prolonged sitting. *Thuja.*
in the; also in the spine, with drawing in the back part of the stomach. *Stram.*
in the; also with stiffness of the back, or principally while standing, and disappearing from pressing on it. *Led. pal.*
pressive, on the left side, along the. *Mezer.*
dull aching in the, aggravated by motion. *Æscul. hip., Ptelia trif.*
dragging in the. *Myr. cer.*
heavy, in the. *Pic. ac.*
frequent, in the, as if tired, on raising one's self up. *Lauroc.*
in the, worse while walking. *Hep. s.*
in the. *Crot. horr.*
in the, after a fall. *Kali carb.*
in the, relieved in the afternoon, after a hard stool. *Ox. ac.*
in the, alleviated while sitting. *Merc. sol.*
in the, almost unable to rise. *Calc. c.*
in the, as after having carried heavy loads, early, on and before rising. *Tart. em.*
in the, as from a tightly drawn cord through the, with stiffness, especially in a recumbent position. *Puls.*
in the, as from long stooping. *Dulc.*
in the, as from stagnation of flatulence. *Hell. n.*
in the, as if broken, early, in bed, not allowing to stoop after rising, later, hunger, then bellyache, with diarrhœa. *Staph.*
in the, as if broken, especially on touching; pressing, grasping and twitching, with sensation in arms and feet as if they were to be turned outward. *Graph.*
in the, as if broken, especially on bending backward. *Plat.*
in the, as if lame, also with convulsive drawing the hips forward, preventing walking, with an anxious, fearful mind. *Cocc.*
in the, as if ulcerating, all night, can only lie on the right side. *Nat. s.*
in the, at nights, allowing to lie only on the abdomen. *Nit. ac.*

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Small of the back, pain in the, better, when standing or walking. *Arg. n.*
in the, during a soft, difficult stool. *Nicc.*
in the, only while walking on an uneven floor. *Ver. alb.*
in the, especially at nights. *Cham.*
in the, especially on bending backwards or after a little walk, with nausea and weariness. *Con. m.*
in the, evenings in bed, drawing across it. *Valer. off.*
in the, extending into the limbs. *Zinc. ox.*
in the, followed by pains in the thighs. *Magn. sul.*
in the, from above downward, with heat in the palms of the hands and the soles of the feet. *Kreosot.*
in the, nights and mornings. *Nicc.*
in the, nights, on turning in bed. *Zinc. ox.*
in the, not allowing to stand. *Petrol.*
in the, on bending forward, disappearing on rising and bending backward, or vice versa. *Puls.*
in the, on rising after sitting. *Led. pal.*
in the, on rising from a seat. Stitches in the, or across it, also pulsating stitches in the loins and renal regions; pressing in the, disappearing while walking, returning on sitting down. *Sulph.*
in the, smarting, burning. *Zizia aur.*
in the, violent, at nights or in the morning on waking, and when stooping. *Nitrum.*
in the, pinching in the back part of the os ilium, motion and touch is almost unbearable. *Lob. infl.*
in the, when at rest; jerking tearing when moving about, as if bruised in the back and in the. *Alumin.*
in the, when walking or standing. *Pod. pelt.*
in the, while lying on the back, with great weariness, going down to the feet; violent, while sitting, not allowing to straighten one's self. *Lycop.*
in the, while walking. *Coff.*
and sitting down, more while walking, obliging him to stand frequently, growing less by continued walking. *Zinc. m.*

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Small of the back, pain in the, with great restlessness, with yawning and stretching of the arms and legs. *Lach.*
in the, with listlessness of the whole body, after restless sleep, with dreams and pollutions. *Ranunc. bulb.*
in the, with sensitiveness to pressure; severe pain in the, as if bruised, while sitting, disappearing on motion. *Tongo.*
in the, with weakness in the legs, especially in the knee-joints, compelling to drag the foot, with stitching tearing in the calf of the leg. *Staph.*
in the, worse while sitting. *Ol. an.*
laming, in the, early, on rising, especially on touching it; lameness in the, pressure and tension in the. *Sil.*
in the, after prolonged stooping, as if bruised; mostly while straightening. *Nat. mur.*
in the, especially on the left side, but with an inclination to stretch and bend it backwards, which is gratifying. *Sabin.*
laxative, in the, as from too great exertion, with awkward tottering gait, with jerks, taking away the breath or going into the abdomen. *Lach.*
nocturnal, in the, preventing turning over in bed. *Nux vom.*
on sneezing, sudden, severe, as if the, were dislocated, then drawing pain alongside and near the spine, and from thence into the left groin and testicle, especially painful on rising from a seat and while walking. *Sulph.*
on the right side of the, or spreading over all parts of the body; worse while walking, better when at rest. *Mezer.*
paralytic, bruised, in the long bones and in the joints of the limbs, also in the, on motion; even when sitting and standing the back pains as if beaten, and the muscles of the legs are sore to the touch. *Calc. carb.*
pressive, in the. *Acon.*
sore, in the. *Nat. carb.*
sudden, spasmodic, in the, wherefrom the body is in danger of sinking down when after long standing the feet are put forward. *Thuja.*
tensive, in the, also with stiffness, or with sensation of cold and numbness. *Carbo veg.*

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Small of the back, pain, unbearable, in the, like a cramp, aggravated by the least movement. *China.*
violent, tearing in the, aggravated by pressure. *Acon.*
paralysis of the, after a cold. *Dulc.*
of the, early, on rising. *Nat. m.*
pressing, as if bruised in the, awakening from sleep at nights, worse early, about four o'clock, disappearing after rising. *Staph.*
in the. *Nit ac., Prun. spin.*
in the, laming pain, while sitting and standing. *Coff.*
in the, on stooping, or drawing upwards, while sitting. *Menyanth.*
in the, when at rest. *Euphorb.*
in the, while bending forward; pressive, bruised sensation in the, also in the loins; early, on rising; worse on turning the trunk and while standing, less in walking; tensive pain. *Thuja.*
over the, as from a cutting instrument. *Rhus tox.*
over the, tension and sensation of weakness in the, while sitting, with tension in the head; on rising from a seat, evenings, as if the, were in a vice; drawing in the, and spine; like painful weakness, while sitting and bending forward. *Zinc. met.*
pressive burning in the, excessive tingling in the. *Stann.*
drawing and vibrating, along the left side of the. *Sep.*
pressure in the, as if bruised. *Angust.*
pulsation in the. *Nit. ac., Sep.*
running in the, stitching in the back, towards the right side, also tensive or pressive, and especially while lying (mostly in the small of the back), and with difficult breathing. *Tarax.*
sensation as if bruised in the shoulder-blades, backward. *Merc. sol.*
in the, as if screwed up. *Æthus. cyn.*
of a plug in the. *Carb. veg.*
of numbness in the, extending into the legs. *Acon.*
of weakness, as if bruised in the. *Ars.*
shooting and creeping in the. *Acon.*
small painful spot, low down in the. *Lach.*
soreness in the, when touching it. *Colch.*
sticking and drawing in the, momentary. *Acon.*
stiffness in the, after sitting. *Ambr. gr.*
in the evenings, especially while sitting, which allows neither to rise nor to bend backwards. *Baryta carb.*

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Small of back, pain in the, pressing drawing across it, while sitting straight. *Lycop.*
painful, in the, after sitting, almost impossible to rise. *Bell.*
stitch, sudden, in the, while lifting, not allowing to move without great pain. *Sep.*
violent, in the, on rising after stooping. *Phos. ac.*
stitches, burning, on stooping and walking, coming from the. *Nux vom.*
cutting, as with a knife, from the, through the bones. *Ign.*
diagonally, through the. *Cup.*
frightening, in the, spasmodic drawing in the, compelling to lie still. *Sil.*
from the abdomen outward, to the, early in bed. *Cocc.*
in the. *Colch., Hyper. perf., Iod., Lyc., Nicc.*
in the, also when walking or stooping or only while sitting, and disappearing from pressing on the spot and in lying on the back. *Ruta gr.*
in the, disappearing after a hard stool. *Indigo.*
in the, during respiration. *Merc. sol.*
in the, gnawing in the. *Nicc.*
in the, on coughing. *Nit. ac.*
in the, or tensive pain, on standing erect. *Ign.*
in the, taking the breath away, with headache and pain in the nape of the neck, followed by chilliness or heat, frequently alternating with anxiety about the pit of the stomach. *Sulph.*
in the, violent, causing one to tremble. *Nux jug.*
in the, with drawing through the lumbar vertebræ on standing. *Can. ind.*
in the, worse from breathing. *Spig.*
like electric shocks from the, to the shoulder-blade. *Evonym. europ.*
stitching in the, when bending forward, continuing long afterward. *Ver. alb.*
in the, with sensitiveness of the affected spot by leaning on it, in the afternoon, disappearing after rubbing. *Plumb.*
jerking in the. *Euphorb.*
jerks in the, towards the hips, as from overlifting, while walking, worse after sitting or standing. *Ferr.*

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Small of the back, jerks in the, while walking. *Rhus tox.*
swelling, painful, of the bones in the. *Rhus tox.*
tearing from the, to the occiput, the left half of the head and the left jawbone, mostly evenings, with hot swollen cheeks and red inflamed eyes. *Led. pal.*
tension in the, not allowing to take a long breath. *Nit. ac.*
weakness and pains in the, while walking. *Sep.*
great, across the, extending around the body, as if the body were broken. *Plant. maj.*
in the back, and especially in the, with pressing headache, mornings. *Coloc.*
in the. *Eupat. perf.*
in the, also with lameness as if gone to sleep. *Phos.*
sensation of, in the. *Zinc. m.*
weariness in the, early in the mornings. *Meph. put.*

Loins and Lumbar Regions.

Loin, burning in the left, as from a hot needle. *Æthus. cyn.*
dragging in the right, when walking, disappearing when sitting. *Æthus. cyn.*
stitching in the, while sitting and lying. *Sil.*
Loins and hips, weakness in the, extending downwards, into the lower extremities. *Ox. ac.*
and kidneys, in the region of the, pressure and tension, also with sensation of numbness, swelling, warmth, stiffness and lameness (urinary difficulties). *Berb. vul.*
and lower extremities, pain and uneasiness in the. *Plant. m.*
and ossa ischiæ, pain as if sprained in the, when sitting and when turning the body in walking. *Hep. sul.*
and renal regions, pulsating stitches in the, stitches in the small of the back or across the same. *Sulph.*
crawling in the, as from beetles. *Crot. tigl.*
heaviness and drawing in the, with great weariness and lassitude, with trembling in the legs. *Arg. nit.*
pains, deepseated, in the, with soreness from motion. *Eup. perf.*
dull, in the, increased by motion. *Zizia aur.*
frequent, in the, with swelling of the ankle-joints; fixed pains in the. *Hyoscyam. n.*
in the. *Acon.*
pressure, laming or sharp, in the region of the, early in bed, disappearing after rising. *Cocc.*

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Loin, stitching pressing like a forcing outward in the, on inspiration, when sitting bent forward. *Dulc.*
tearing pressing in the muscles of the, and in the lower dorsal vertebræ, especially on bending the body. *Sabin.*
weakness, painful, of the, when standing. *Lob. cer.*
of the, with dull aching pain. *Æscul. hip.*
Lumbago, from lifting. *Sanguin. can.*
Lumbar region, aching, dull, heavy, in the, on going to bed at night. *Bapt.*
and loins, sensation of lameness in the; does not feel these parts. *Bry.*
and sacral, pain, tensive-pressive in the, noticed on stooping. *Acon.*
severe aching in the. *Ptelia trif.*
weight and pain in the, sometimes extending all around the body, below the crest of the ilium. *Cim. rac.*
concussive blows in the, with sensation of external cold. *Stann.*
pain, aching, across the. *Sumb.*
between the shoulders, in the small of the back and the. *Kobalt.*
drawing, in the, along the spine and down towards the thighs, better by bending the body forward, not allowing to stretch the feet, augmented by standing, walking or pressure on the vertebræ. *Bry.*
dull heavy, in the, very much aggravated by walking. *Bapt.*
nocturnal, in the, when lying on the back. *China.*
sharp, in the, extending to the testicles. *Dioscor. vill.*
severe, with stiffness of the back, aggravated by walking and stooping. *Æscul. hip.*
violent, in the, after vertigo and pressing pains in the vertex, which disappear in from six to eight hours; the pain reaches down into the os sacrum and thigh; they are at first tearing-jerking and grow to such a sensation of rigidity that he can scarcely rise from his seat; at the same time a scanty light-colored urine, which deposits a whitish sediment. *Kali bi.*
pains in the spinal column in the, with sensation of uneasiness through the whole body. *Baryt. c.*

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Lumbar region, pains in, with sensation of coldness, worse at night, from motion. *Pod. pelt.*
pressing, in the, on rising from a seat and at the beginning of a walk. *Tabac.*
sensation in the spinal canal of the, as if the spinal marrow or its membranes were being touched by a piece of ice. *Agar. m.*
of cold wind blowing on the; twitching pain in the left iliac region. *Sumbul.*
shuddering in the, pressing on the left side of the lumbar vertebræ when at rest. *Rhod.*
stitch, severe burning, in the upper. *Apis.*
stitches in the. *Bry.*
weight, paralytic, in the, extending to the hip-joint. *Arg. nit.*
vertebra and os sacrum, jerking in the region of the last, with sensitiveness to the touch. *Bry.*
peculiar sensation of weakness, mostly in the region of the lowermost. *Phos.*
vertebræ, drawing cutting round about the, lessened by pressure. *Dig. pur.*
through the, with stitches in the small of the back. *Can. in.*
electriclike shock, violent, in the lower part of the body, coming from the. *Agar. m.*
frequent sensation of hot water passing through the. *Sumbul.*
in the first and second, and in the twelfth dorsal vertebra a pain, very sensitive to the touch, with a feeling of coldness in the gluteal muscles and formication in the feet. *Agar. m.*
lamelike sensation in the region of the lower, and in the upper part of the os sacrum. *Phos.*
pain alongside the, as if pounded and beaten. *Nux mosch.*
as after a kick, close alongside the. *Dulc.*
as if bruised in the last, at its junction with the sacrum; the back feels as if beaten. *Acon.*
dull, in the region of the lower dorsal and upper. *Cim. rac.*
pressing in the fourth, most after walking. *Puls.*
on the left side of the, when at rest shuddering in the lumbar region. *Rhod.*
pressure on the lowermost two, causes a sensation of numbness and rigidity in both feet. *Phos.*

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Lumbar vertebræ, pressure, sharp, in the, extending to the lower extremities and compelling to limp, with bruised pain in the small of the back, while walking, sitting, standing or lying. *Hep. sul.*
stitches along the left side of the, while walking or sitting, as also in the back or up through the chest. *Thuja.*
between the shoulders to down into the, on deep inspiration, taking the breath away. *Prun. spin.*
drawing toward the. *China.*
tearing in the, extending into the region of the kidneys, worse by moving the trunk. *Stann.*
Right hip, stitches over the, almost constant, the pain not allowing to lie on the right side; on touching it feels as if ulcerating. *Sep.*

Sacrum.

Sacrum and back, trembling and weakness in the. *Cim. rac.*
coccyx, continuing pain in the. *Lach.*
numbness of the. *Plat.*
pressing pain in the. *Iod.*
small of the back, pressing bruised pain in the, early in bed, when lying on the back. *Ign.*
burning in the, burning in the spine above the, burning in the region of the left kidney, extending toward the right side. *Lachn. tinct.*
cold sensation in. *Dulc.*
cutting in the, obliging to support the small of the back while walking. *Tax. bacc.*
drawing from the, to the nape of the neck, causing the trunk to bend backward. *Ars.*
pains between the shoulder-blades, down to the. *Chelid.*
jerkings in the region of the last lumbar vertebra and the, with sensitiveness to the touch. *Bry.*
lancinations in the dorsal muscles, from the occiput to the. *Elaps. cor.*
pain and weakness and stitch in the. *Lith. carb.*
bruised, in the. *Fluor. ac.*
dull aching in the, just below its union with the lumbar vertebræ, worse during motion or standing. *Plant. m.*

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Sacrum, pain in the, running upwards into the kidneys. *Eupat. pur.*
of the, compounded of a feeling as from pressure and fatigue from long stooping, extending soon around the hips and down the right leg. *Bapt.*
in a small circumscribed spot on the, very bad on touching. *Colch.*
in the, from lifting, alleviated from bending forward. *Sang. can.*
in the, pressing into the right thigh, worse when pressing at stool; when coughing and laughing it extends from the sacral plexus through the great sciatic foramen, along the sciatic nerve, down into the thigh (especially on the right side, *Sciataca*). *Tellur.*
in the, when standing, with confusion of the head. *Lith. carb.*
in the; sort of crick in the back (flexenschuss), extends along the whole spinal column to the nape of the neck. *Agar. m.*
numb, from the, down the legs. *Graphites.*
pressing, at the conjunction of the, with the hip-bone. *Plumb.*
in the. *Ruta gr.*
pressure in the, as from an obtuse body. *Mosch.*
in the, and a little below it. *Sep.*
prostration, feeling of, in the, at night. *Lith. carb.*
pulsation and pain in the. *Ign.*
and pressing in the. *Ol. an.*
stitch, sudden and violent, in the, while walking in the open air at noon; is incapable of taking another step. *Agar. m.*
stitches, also pressing from the, into the side of the pelvis, or jerklike, with burning (on the right side, along bone), disappearing after rubbing. *Thuja.*
burning, in the. *Colch.*
stitching, drawing and twitching in the; burning on the skin over it. *Staph.*
tearing in the. *Zinc. m.*
or pain, between the shoulders, extending to the small of the back and. *Zinc. ox.*
with digging, on the left side along the, or on the left side over the pelvis, disappearing from pressure. *Dulc.*
tearing in the. *Spong.*

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Sacrum, upper part of the, and in the region of the lower lumbar vertebra, a lamelike sensation in. *Phos.*
Sacral and lumbar region, severe aching in the. *Ptelia trif.*
weight and pain in the, sometimes extending all around the body, below the crest of the ilium. *Cim. rac.*
region, walking prevented by a cramplike pain in the left. *Ptel. trif.*

Coccyx.

Coccyx and sacrum, pressing pain in the. *Iod.*
steady pain in the. *Lach.*
and small of the back, intense cramp pain in the. *Bell.*
itching in the. *Alumin.*
on the. *Plumb.*
or burning on the. *Lauroc.*
stitch in the, while sitting. *Dros.*
jerks, tearing, in the. *Cic. vir.*
pain in the, as from a bruise, while sitting quietly, especially when slumbering. *Amm. m.*
in the, as from a fall. *Kali hydriod.*
in the, hindering every motion; cannot find a comfortable position, and afterwards painful stiffness of the neck. *Phos.*
in the, in the morning, worse from walking and touching it. *Kali bi.*
in the spinal marrow, down to the cauda equina, and radiating through the. *Lact. vir.*
pressive sore, beneath the. *Carb. veg.*
painful, as after a long ride. *Sil.*
to the touch, as if ulcerating. *Phos.*
piercing, sudden, in the; a violent pain, as if the spine were bent back. *Magn. c.*
pushing, pressure and pinching on the. *Zinc. m.*
sensation of numbness in the, while sitting. *Plat.*
stiffness in the spinal column, beginning in the region of the. *Arsen.*
stitches, as with a needle; drawing twitching on the. *Rhus tox.*
stitching tearing down the spinal column to the, while sitting. *Dros.*
tearing in the, better by pressing the hand against the abdomen. *Merc.*
Coccyodynia. *Sil., Tarantul.*

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Extremities in General and Limbs.

Extremities and back, inclination to twist the. *Curare.*
arms and legs, leadlike weight and heaviness of the. *Plant. m.*
drawing in the back, the upper and lower, and in the fingers, as from having taken a cold. *Dig. pur.*
jumping, frequent, of the muscles of the, with jerking up of first one thumb, then the other, and of other fingers. *Agar. m.*
numbness, sensation of, in the. *Cham.*
one or the other, crawling, as of a fly, up the, with numbness of the part. *Euphras.*
pain, intense, along the sciatic nerve in its longer ramification (*sciatica*). *Gnaphal.*
neuralgia in all the; cramping pain, with lameness and numbness. *Cim. rac.*
prickling sensation over the whole body, extending to the. *Xanthox. frax.*
sensation of pricking and tickling, particularly in the. *Ver. vir.*
shocks, electriclike, starting from the brain, extending to the. *Ailanth. gl.*
spasms in the. *Cupr. ars.*
tetanic, of the muscles of the. *Kali hydrocyan.*
strength, uncommon sinking of, with trembling of the whole body and coldness of the. *Hyoscyam.*
trembling, violent, of the body, especially of the upper and lower. *Sabad.*
twitching and spasms of the. *Cic. vir.*
upper and lower, chorea-like, convulsive motions of the. *Arg. n.*
sensation of numbness in the, also with trembling. *Iod.*
trembling in the. *Cic. vir.*
Limbs, affected by tonic spasms are alleviated by stretching them, as by the attempt to straighten them. *Sec. c.*
agreeable sensation in both, from the knees down, with a sensation as if a bird's claws were clasping the knees; on attempting to walk, experienced intensely violent pains, as if stepping on a number of spikes, which penetrated the soles of the feet and ran upwards through the limbs to the hips. *Cann. ind.*
all the, became torpid, not allowing voluntary motion, although they are easily moved by others. *Merc. sol.*

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Limbs and back, bruised sensation in the, worse on pressure. *Ptelia trif.*
pain in the. *Ipecac.*
sensations of numbness and weakness in the. *Ox. ac.*
and face, violent twitching of the, with stiff stretching out of the body. *Lach.*
and gums, jerking pain in the. *Sec. cor.*
and head, moves them farther than intended. *Nat. m.*
and joints, contractions of the. *Plumb.*
most violent, of all the, also with unconscious falling down and sudden vertigo and blindness, with twitching of the limbs, trembling and violent empty vomituritions. *Sec. c.*
cramplike twitching or drawing in the. *Plat.*
jerking in the, or in the whole body, with sensitive mood. *Nat. carb.*
drawing or tearing in the, also with unbearable tingling, with headache and pains in the back, anxiety and insensibility of the hands and feet. *Sec. c.*
and muscles, twitching in the. *Rhus tox.*
and spine, convulsive movements in the. *Curare.*
arms and fingers, twitching tearing in the. *Phos. ac.*
buzzing and vibrating through all the, in the feet and legs, and especially in the soles of the feet. *Oleand.*
cold, with burning through the whole lower part of the body. *Phos. ac.*
with hot head. *Bell.*
coldness, numbness and stiffness of the. *Æthus. cyn.*
of the, they feel as if deadened and turn bluish. *Apis.*
of the, with pain in the back and hips. *Pall.*
contraction and stretching out of the, attacks of gradual; spasmodic twitching of the. *Stram.*
cramp and formication in the. *Tabac.*
crawling in upper and lower. *Acon.*
debility, general, and trembling of the, with vertigo and buzzing in the ears. *Arg. n.*
great, with trembling of the. *Agar. m.*
distortion and twitching of the. *Cina.*
drawing, paralytic, and tearing in the. *Magn. m.*
formication and tearing in the, anæsthesia; increased heat. *Phos.*
go easily to sleep, as the arms, the muscles of the neck, the scalp, the buttocks and the feet, especially while lying. *Sulph.*
when lying on them. *China.*

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Limbs, go to sleep, with coldness and trembling. *Hyoscyam.*
while lying, especially the head, the arms and thighs. *Merc. sol.*
with tingling, early in bed and afternoons while sitting; twitching of the muscles. *Teucr. m. v.*
heaviness of the. *Opium.*
and tiredness in all the, lamelike drawing through them. *Sabad.*
and trembling of all the. *Stront.*
in all the, unsteadiness of all the. *Sep.*
with painful sensitiveness of the muscles and dislike to move. *Hell. n.*
in the; in the lower extremities, with difficult walking, also with humming in the legs, or with heaviness of the arm, scarcely allowing to write. *Spig.*
in the, with numbness; weakness of the same. *Sec. c.*
of all the, depressed mood; sadness, apprehensiveness. *Graph.*
of all the, especially the thighs, as if lead were hanging to them. *China.*
of the, with laziness and drowziness. *Merc. prot.*
sensation of, in the. *Bry.*
immobility and stiffness of the, also complete. *Sec. c.*
insensibility of the, of the arms and legs, also with immobility. *Plumb.*
jerking of the. *Kali carb.*
and twitching in the, all night, with coldness of the whole body. *Ambr. gr.*
of the, night and day; when he moves a limb it twitches; twitching of the muscles. *Sep.*
of single, or the whole body, during sleep and waking. *Lyc.*
cramps in the, during sleep. *Ailanth. gl.*
frequent, in single. *Graph.*
in the, and starting in the muscles even to contortion of the whole body. *Sumbul.*
of the, at night, during sleep. *Cupr.*
jerks and twitching of the, especially evenings on falling to sleep. *Ign.*
frequent, while sitting, like electric shocks, through the head, arms and legs. *Cic. vir.*
in the lower, when falling asleep. *Kobalt.*
lamelike dulness in the, twitching and vibrating of the muscles here and there. *Val. off.*
stiffness of the. *Oleand.*

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Limbs, lameness of the, early on waking. *Nat. c.*
languor and weakness of the, especially of the thighs. *Hydroc. ac.*
loss of coördination of the muscles of the. *Bell.*
loss of sensation in the, with stiffness in the same. *Hydroc. ac.*
misstep, every, goes painful through all the. *Spig.*
move easily enough, but with a sensation as if the moving powers were in an impeded condition. *Tarax.*
movements, involuntary and jerking, of the. *Calc. c.*
numbness of the. *Led. pal.*
and deadening of single, jactitation of muscles. *Caust.*
and insensibility of the, also with coldness of the same. *Opium.*
of the, with coldness of the same, especially when the spasms diminish, and then mostly of the fingers and hands, also with pale lips. *Sec. c.*
of the, as if going to sleep, especially of the arms and feet, while lying. *Ver. alb.*
of the, great nervous excitation, with one-sided paralysis or paralysis from the small of the back downwards. *Cocc.*
of the, turning into paralysis. *Plumb.*
pain, bruised, in all the. *Kobaltum.*
in the, wandering through the whole body, especially in the back and small of the back, obstinate, periodical, returning every ten to twenty minutes, with slow contraction of the. *Sec. c.*
on motion, as if broken. *Cocc.*
pressure in the. *Guarea.*
restlessness, constant, in the, with jerking in the same, evenings, especially in the legs, as if over-tired, which compels to constant motion of the limbs, while lying and sitting, also at nights, with frequent jerking and starting, even of the head, and throwing about of the arms while asleep. *Merc. sol.*
great, in the. *Aluminum.*
great, of the, compelling to move them constantly and change their position. *Bell.*
of the, especially of the feet. *Ox. ac.*
rigidity, convulsive, of the. *Sang. can.*
of single, or of all of them (especially also after the spasms), with loss of sensibility or violent pains, which are very much augmented by warm air, and

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the warmth of the bed, and lessened in the cold, which again causes instead an intolerable sensation of coldness in all limbs. *Sec. c.*

Limbs, sensation as if the joints had gone to sleep, twitching of the. *Ipec.*

of a cramplike drawing to and fro in the muscles of the, of the back and shoulder-blades, as of something moving in them. *Nux vom.*

of a fluid creeping from the trunk into the, especially into the knee, elbow and wrist-joints. *Phos.*

shocks and disordered movements of the. *Curare.*

galvaniclike, of great violence in the, coldness, blueness and dampness of the hands, feet and limbs, with cramps of the extremities. *Ver. vir.*

spasms in the arms and legs, tearing in the joints and soles of the feet, with jerking in the feet, like St. Vitus's dance, causing sleepless nights. *Sil.*

spasmodic disturbances of the. *Cic. vir.*

movements of the muscles of the face and. *Agar. m.*

violent convulsions of the, in bed, of the most violent kind, with such rage that he must be bound. *Stram.*

staggering of the, while walking and standing; can stand on his feet with difficulty only. *Stram.*

starting, violent, of the, while falling asleep. *Ars.*

stiffness and heaviness in all the. *Thuja.*

and stretching of the. *Angust.*

great, of the, of the small of the back, especially after sitting. *Sil.*

of the, mostly forenoon and after standing. *Ver. alb.*

of the, with paroxysms of spasmodic dyspnœa; paralysis from inflammation of the spinal cord. *Ox. ac.*

tearing in the, with chilliness. *Baryta c.*

tension in the, as if bandaged too tightly. *Plat.*

tingling sensation in the, as if having gone to sleep. *Ign.*

on waking, of those parts on which he had lain while asleep. *Puls.*

tingling in the, with impeded mobility of the same, and with running of tears from the eyes; the limbs go to sleep. *Stram.*

tired feeling, excessive, of all the, especially when lying on the left side, relieved when lying on the right side. *Merc. prot.*

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Limbs, weak, uneasiness, with numbness and gnawing pain in the. *Eupat. pur.*
trembling of the. *Ars.*
and drawing in the, with chilliness. *Cocc.*
and tingling in the, accompanied by shooting pains. *Acon.*
and twitching of the. *Chelid.*
convulsive, of the. *Acon.*
internal, in the, early, after prolonged holding them in the same direction. *Staph.*
in the upper and lower, spasmodic distortion of the. *Cic. vir.*
of the, also with great anxiety and inclination to syncope. *Ver. alb.*
of the, and of the whole body, with weariness. *Ox. ac.*
of the, especially early, and mostly of the arms, which are as if paralyzed. *Sil.*
of the hands. *Sulph.*
or fingers and eyelids; first the hands, then the arms, the feet and back, with tottering and unsteady gait, and an impossibility of carrying the hand straight to the mouth; the motions of the body are painful; the circulation accelerated, with a small threadlike pulse; when at rest, the trembling parts are easily steadied. *Iod.*
the legs, aching when sitting. *Kobalt.*
of the, painful oversensitiveness of the whole body. *Arn.*
of the, sensation in them as if they would become numb or go to sleep. *Arg. nit.*
of the, after slight exertions. *Rhus tox.*
of the, with convulsive jerks. *Bell.*
of the, with dyspnœa, after slight vexation. *Ran. bulb.*
of the, with jumping of the heart. *Nux vom.*
of the, with pains in them. *Sec. c.*
sensible, though invisible, of all the, combined with a cooling sensation. *China.*
violent, of all the. *Zinc. m.*
tremulousness and unsteadiness of the whole body and the; the hand trembles more by laying it lightly on to something than by grasping it tightly. *Stann.*

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Limbs, twitches in the, and cold perspiration on the face; the head falls to the side and is jerked backwards; child leans the head to one side. *Cina.*
twitching of the. *Coff.*
and jerking of the. *Alumin.*
in the, while sitting and lying; shocks through the whole body, evenings in bed, with shuddering through the skin. *Sulph.*
convulsions of the. *Cham.*
jerking drawing, here and there, also especially in the, as if in the bones (while sitting still). *Valer. off.*
of single, or of the whole body; limbs go easily to sleep, especially nights in bed, trembling of single. *Thuja.*
of the, by day and night. *Sil.*
of the, while writing or with forward jerking of both arms. *Nat. m.*
of the, with trembling, early. *Phos.*
spasmodic of the, late, evenings. *Graph.*
like throbbing jerks. *Plat.*
spasms and convulsions of all the, of the most violent kind, with pain in the abdomen or stomach, returning at shorter and shorter intervals, with loss of all senses. *Plumb.*
uneasiness, intolerable, of the. *Caust.*
unsteadiness in the; he totters in walking, with sensation of malaise throughout the whole body. *Arg. nit.*
vibration, purring, in the legs, arms and hands; they go easily to sleep; unrest in the; frequent trembling in the whole body. *Sep.*
weakness and trembling of the. *Cupr.*
of all the, feeling of. *Hyper. perf.*
causing all limbs to tremble. *Ther. curr.*
general of the, with trembling. *Plumb.*
great, with sensation of lameness through all the. *Colch.*
in the, especially when at rest, or numbness and stiffness in them, generally accompanied by coldness. *Plat.*
of the; they feel bruised. *Hep. s.*
paralytic, of the, with trembling. *Caust.*
sensation of, with lameness and twitching of all the, evenings. *Stront.*
weariness, great general, or now more in the upper then more in the lower extremities. *Sec. c.*

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Limbs, weariness, of the, especially of the legs, with constant sleepiness and ill-humor. *Acon.*

Joints, drawing in the, lameness of the same, after waking from sleep. *Nat. c.*

lameness in all the, worse while rising after prolonged sitting; during and after walking in the open air, with stiffness in all limbs and the sensation of a heavy load on the back of the neck. *Rhus tox.*

stiffness of all the, especially the shoulder, small of the back and hip. *Staph.*

weakness and trembling, especially of the. *Mangan.*

Hip, lameness in the left. *Fluor. ac.*

Gait.

Gait, although staggering, his legs follow the will as easily as if he had none, at the same time they seem to be larger, so that he thinks his foot touches the ground when it is still a distance off. *Stram.*

careless, clumsy. *Sil.*

difficult or clumsy walking, also with apparently undiminished strength, inability to carry out easy movements and manipulations, complete incapacity to walk. *Sec. c.*

staggering and unsteady, with restlessness and trembling of the legs. *Iod.*

dragging sensation about the lower extremities, occasioning some unsteadiness in walking. *Carbo alc.*

(gressus vaccinus) with spinal diseases. *Iod., Rhus t., Sec. c.*

fancies he staggers while walking. *Phos. ac.*

lameness and stumbling. *Curare.*

puts one foot over the other and staggers as if dizzy while walking. *Teucr. m.*

sensation as if he were to fall towards one side, while walking. *Sulph. ac.*

shuffling, want of firmness in the body. *Ol. an.*

the feet are dragged along. *Sec. c.*

slow, dragging, difficult. *Rhus tox.*

staggering. *Hyoscyam., Magn. m.*

and inability to stand erect, early on rising. *Rhus tox.*

and trembling, immobility, insensibility, stiffness of the body. *Hydrocyan. ac.*

and unsteadiness in the feet, on rising from a seat. *Spig.*

of the legs. *Nux vom.*

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Gait, staggering, with painful tiredness, while standing. *Stann.*
and vertigo. *Arg. nit.*
cerebro-spinal irritation. *Cupr. ars.*
frequent false steps. *Kali brom.*
he wavers to and fro. *Prun. spin.*
in walking, obliging to sit down, especially evenings. *Alumin.*
tottering and reeling. *Opium.*
unsteadiness of the feet, early mornings and evenings, at the beginning of a walk. *Magn. m.*
when rising in the morning, the legs refuse their service. *Bell.*
with confusion of thought and purpose in the head. *Myr. cer.*
without vertigo. *Nitr.*
staggers as if dizzy, while walking puts one foot over the other. *Teucr. m. v.*
in walking, falls easily and stumbles over the slightest objects. *Ign.*
drops his bread while eating, etc., if not particularly reminded of it; the muscles refuse their service, if not particularly paying attention to them. *Hell. n.*
heaviness of the legs. *Cann. sat.*
strutting (gressus gallinaceus), with spinal disease. *Ign.*, *Lach.*
tottering. *Ver. alb.*
awkward, with luxative pains in the small of the back, as from too great exertion, with jerks, taking away the breath, or going into the abdomen. *Lach.*
staggering, from weakness of the thighs. *Ruta gr.*
totters while walking and threatens to fall to one side; knees sink down from weakness. *Cocc.*
tremulous, tottering, with paralysis of the lower extremities; sensibility remaining intact; skin on paralyzed limbs sometimes hyperæsthetic. *Lathyrus.*
unsteadiness in walking, sensation of weariness and getting tired easily. *Sumbul.*
unsteady, she expects to fall at every step, without vertigo. *Phos.*
staggering, loss of voluntary motion. *Gels.*
stumbling over every object. *Agar. m.*, *Ign.*
walk and trembling of the hands, internal trembling. *Sulph.*

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Paralysis.

Paralysis. *Angust., Crot. horr., Hyoscyam., Lyc., Merc. sol., Sulph.*
accompanied by tonic contractions; myelitis and softening of the spinal cord. *Sec. c.*
affections of the spinal cord; spasms. *Form.*
after loss of animal fluids. *Ferr. m.*
after spasms. *Hyoscyam.*
agitans. *Kali brom., Merc.*
and heaviness of the arms, as if weights were hung upon them. *Chelid.*
of the legs and feet. *Bell.*
and numbness of the legs and feet. *Nux vom.*
of the limbs. *Plumb.*
and palsy of aged people. *Baryt. carb.*
and paralytic immobility of the lower extremities from the small of the back, also with drawing, as if in the bones. *Cocc.*
pain of the back and small of the back. *Cocc.*
and powerlessness of the whole body, especially of the legs. *Colch.*
arm and left thigh, of the, like numbness; can scarcely move the hand. *Acon.*
and leg, of the right, after a cold. *Atrop.*
of the right, sudden, evenings. *Lyc.*
of the, with coldness and insensibility. *Rhus tox.*
of the, with starting and jerking as if the blood would start out of the veins. *Nux vom.*
arms and legs, of the. *Stann.*
of the, complete, also with pain; the hands hang down, are as if dried up, with deadly paleness of the skin, constant coldness and drawing up back of the hand. *Plumb.*
of the, complete, beginning with insensibility of the skin. *Curare.*
beginning; the hand lets fall everything. *Sil.*
bladder, of the neck of the. *Canth.*
caused by tabes dorsalis. *Sil.*
complete, with peeling off of the skin on the suffering parts, formation of gangrenous blisters on the whole body. *Sec. c.*
epidermis, of the. *Curare.*
extremities, of the. *Arg. nit.*

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Paralysis; feet cannot be bent or the hands be closed, sometimes on the left side only. *Lach.*
fingers, of the, sensation is intact, but they can scarcely be moved. *Phos.*
following after spasms and convulsions. *Æscul. gl.*
from inflammation of spinal cord; stiffness of the limbs, with paroxysms of spasmodic dyspnœa. *Oxal. ac.*
from spinal disease. *Alumin.*
general, spinal, from below upwards. *Con. m.*
with anæsthesia, acts in nerves of voluntary motion; softening of the spinal cord. *Phos.*
hemiplegia, chorea, epilepsy, caused by syphilitic exostosis of the cranium. *Iod.*
intestinal canal, of the. *Opium.*
kind of, as if in the hip. *Sulph.*
kind of, in the left leg, with pain in the hip and knee-joint; next day it comes in the right leg and arm; the pain continued while walking; he was obliged to turn the foot outward. *Magn. carb.*
left arm, of the, with pain in the heart. *Pall.*
left hand, of the, with jerks in the elbow-joint. *Nat. m.*
left side, of the. *Ox. ac.*
leg, in the whole, drawing like, while sitting. *Rhus tox.*
legs and foot, of the. *Oleand.*
of the, legs feel heavy and tired as after a long walk, as if paralyzed. *Rhus tox.*
of the, or of all the limbs. *Iod.*
light, and stiffness in the lower extremities. *Ox. ac.*
limbs lie motionless and remain in the position they are placed in. *Opium.*
of single. *Sec. c., Xanthox.*
of the. *Iod., Nitr., Stram.*
of the, affected parts feel numb, as if made of wood. *Nitr.*
of the, one-sided paralysis, also with twitchings, or especially of the left side. *Stram.*
of the, with loss of sensation. *Lauroc.*
of the, with numbness and stiffness; stiffness and stitches in the joints. *Bry.*
lower extremities and feet, of the. *Plumb., Ver. vir.*
and right arm, of the. *Cann. ind.*
especially, of the. *Nux vom.*
of the, also with loss of sensation. *Ars.*
first, then of the upper. *Hydrocyan. ac.*
then of the trunk and neck. *Physost.*

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Paralysis, lower extremities, of the, after diphtheria. *Ars.*
of the, complete, afterwards of the upper or vice versa. *Con. m.*
or also one-sided with slow, dragging, difficult gait. *Rhus tox.*
of the, paraplegia. *Cann. ind.*, *Hyoscyam.*
of the, weariness in both—almost alike—worse in the left. *Cann. ind.*
of the, with slight spasms of the arms. *Agar. m.*
of the, with tremulous tottering gait, sensibility remaining intact; skin on paralyzed limbs sometimes hyperæsthetic. *Lathyrus.*
motor; paralytic symptoms throughout the entire muscular system. *Gels.*
motory nerves, of the; intelligence and irritability of the muscles remaining intact. *Physost.*
muscular. *Physost.*
numbness, peculiar sensation of, almost like that of, from apoplexy. *Ox. ac.*
one-sided, after vexation. *Staph.*
also especially on the right side and with twitching of the spinal column. *Plumb.*
also with twitchings, or especially of the left side. *Stram.*
especially. *Arg. n.*, *Caust.*
of one arm, right or left, or of the whole left side. *Lach.*
right or left, and spasms of the other side. *Bell.*
of all the muscles of the back up to the neck; also of the limbs; lower limbs œdematous, but they retain their sensibility. *Cupr. m.*
of single limbs. *Sec. c.*
parts. *Anacard.*, *Dulc.*
of the small of the back, after a cold. *Dulc.*
early on rising. *Nat. m.*
of the right side. *Sanguin. can.*
of the spinal marrow, with tetanus. *Nitrum.*
and voluntary muscles, with brain affection. *Angust. spuria.*
of the tongue and extremities, caused by bloody extravasation within the spine. *Guaco.*
painless. *Oleand.*
partial, from concussion of the spine. *Arn.*
rheumatic. *Sulph.*

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Paralysis, spasmodic pains in abdomen cease on appearance of the. *Plumb.*
stiffness of the limbs, with paroxysms of spasmodic dyspnœa from inflammation of the spinal cord. *Ox. ac.*
strong tendency to, especially of the motor apparatus. *Curare.*
sudden, of one leg, for several hours. *Sep.*
with cramps and trembling, of the tongue, eyelids, œsophagus. *Nux mosch.*
with loss of sensation and motion. *Guarea.*
with pain in the back and all the limbs. *Mephit. put.*
Paralytic affections after diphtheria. *Ars., Thuja.*
muscles are weak, they do not obey the will. *Gels.*
attacks of apparent deathlike prostration, with scarcely perceptible pulse of thirty beats, with pliability of the limbs; they remain in the position they are placed. *Lauroc.*
drawing and tearing in the limbs. *Magn. m.*
through all the limbs. *Sabad.*
feeling in the right hand. *Caust.*
of the left arm. *Lob. infl.*
heaviness and weariness in the legs. *Arg. nit.*
pain in all the joints during motion, as if they were bruised. *Arn.*
sensation in the arms, afterwards pulsation in them. *Sep.*
numbness and stiffness in the limbs, generally accompanied by coldness. *Plat.*
stiffness in all the limbs of the whole body as if beaten; stiff and sore over the whole body, in all the joints, bones and muscles. *Lith. carb.*
symptoms throughout the entire muscular system; motor paralysis. *Gels.*
weakness and trembling of the arms and hands or of the knees and feet. *Caps.*
attacks of, with pain in the back. *Cocc.*
during rest. *Rhodod.*
in the arm; painful sensation, as if having gone to sleep, from lying on it. *Calc. c.*
in the limbs, especially when at rest. *Plat.*
of the left side. *Pod. pelt.*
of the lower extremities, with trembling. *Caust.*
principally in the hands and elbow-joints, with chilliness and want of vital turgor. *Angust.*
with heaviness of the arms; he is unable to hold them up or even to change their position. *Curare.*
weight in the lumbar regions, extending into the hip-joints. *Arg. nit.*

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Paralytic-like bruised pain in the long bones and in the joints of the limbs; also in the small of the back, on motion; even when sitting and standing the back pains as if beaten, and the muscles of the legs are sore to the touch. *Calc. c.*

conditions. *Oleum an.*

condition of the right hand; it is quite bluish, deadlike, heavy and without sensation; the pulse in it is small, imperceptible and threadlike. *Zinc. m.*

difficult movements of the muscles. *Plumb.*

pain in the left shoulder. *Æthus. cyn.*

in the thighs. *Æthus. cyn.*

peculiar sensation, with heaviness of the feet; he does not put them down with his usual energy. *Phos.*

sensation, accompanied by drawing or tearing pain, and the drawing and tearing pain hardly ever occurs without laming and numb sensation in the part. *Cham.*

in the right arm, extending downward. *Plat.*

of numbness and rigidity here and there; also with trembling and palpitation of the heart. *Plat.*

stiffness and coldness of the hands, with dulness in the head, or with cold sweat in the palms of the hands. *Cham.*

Paralyzed, arms and legs are like, or only the legs, with severe pain in the chest, on rising after sitting long. *Sol.*

are as if, with incapability to raise them on account of painful tension between the shoulder-blades and on the sternum. *Ferrum. m.*

are heavy, numb and painful, as if. *Bell.*

feet are like; nocturnal paralytic loss of power of the feet; cannot step on them; if he gets up he sinks to the ground with drawing pain in the thighs and numbness in the sole of the foot. *Cham.*

great weariness in the thighs and feet, with trembling of the hands and feet, worse in the forenoon. *Tabac.*

great heaviness of the legs; also especially while walking, almost as if. *Sulph.*

hip-joints feel as if, first the right, then the left, with very difficult walking. *Ver. alb.*

left arm and hand become numb, as if. *Æscul. hip.*

leg, cold sweat on the. *Stram.*

limbs become extremely emaciated. *Plumb.*

lower extremities almost entirely, with stiffness and tired

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aching in both knees; unable to walk upstairs. *Cann. ind.*

Paralyzed, part of body is, while the upper part is seized with spasms. *Con. m.*

nerves of spinal cord become. *Kali brom.*

pain, stiffness of the neck and. *Chelid.*

parts are cold, numb, emaciated. *Nux vom.*

formication on the skin of the. *Phos.*

tingling in the. *Rhus tox.*

right leg feels, when walking. *Cann. ind.*

is difficult to move, as if, without loss of sensation. *Cann. ind.*

sensation as if, with general malaise in the whole body. *Phos.*

in the legs, especially the ankles, as if. *Nat. m.*

in the right arm, as if, and without sensation, nights, while lying on the left side, disappearing after rubbing. *Sulph.*

of all the limbs. *Graph.*

of numbness in the left arm, as if. *Pall.*

of weakness in the hands, as if. *Carb. veg.*

sphincters. *Kali hydrocyan.*

tongue and sphincter ani. *Mur. ac.*

weakness in the back; legs feel as if; walks with difficulty. *Sil.*

Paralyzed-like, muscles of the nape of the neck are. *Ver. alb.*

trembling of the limbs, especially early, and mostly of the arms, which are. *Sil.*

Mental.

Absent-mindedness, great; paralytic weakness of mind, cannot think clearly. *Caps.*

Absent-minded, very; incoherent talking; imaginations; fixed ideas. *Cann. ind.*

Anger, lameness of both legs after. *Sep.*

or masturbation, bad effects from. *Sep.*

Anxiety and despair, previous to cataleptic conditions. *Ver. alb.*

and full of fears. *Kali carb.*

and insensibility of the hands and feet; drawing or tearing in the limbs or joints; also with unbearable tingling, with headache and pains in the back. *Sec. c.*

and restlessness, with hysterical attacks. *Asafœt.*

great, and fearfulness. *Cocc.*

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Anxiety, great, and restlessness. *Æthus. cyn.*
caused by fine nervous vibrations, as if extending into the interior of the bones. *Meph. put.*
with trembling of the limbs and inclination to syncope. *Ver. alb.*
with breaking out of perspiration. *Agar. m.*
with spasmodic attacks. *Ign.*
with stitches in the back. *Ruta gr.*
Anxious and restless. *Hell. n.*
mind. *China.*
Apprehension, great, and fear of impending calamity, with trembling of the whole body and spasmodic twitching of the muscles, especially on the left side of the chest. *Nat. sul.*
Apprehensive, very, of the future. *Anacard.*
Aversion to everything, with weariness, with drowsiness, general dulness, sadness and loss of memory. *Opium.*
Confusion of thought and purpose in the head, with staggering gait. *Myr. cer.*
Depression of spirits, great; unhappy state of mind, associated with pain, about and under (not below) the short ribs, in the back, on the left side, and extending outward, nearly to the left side, in the posterior aspect of the region of the spleen. *Lob. cer.*
Despairing thoughts and contemplation of death, with pain in the ankles. *Acon.*
Despairs and weeps and imagines that nothing can help him, that he must die anyway, at the same time he is cold and shivering, with general lassitude afterwards. *Arsen.*
Excitation, great, with trembling; very changeable mind. *Valer. off.*
Excitement, great; carries out all movements with such haste, assiduousness and strength, that he becomes quite anxious when unable to accomplish them at once. *Stram.*
Falls into a deep study over one idea, while walking, with staggering, until suddenly he is aroused from complete thoughtlessness and does not know where he is. *Nux mosch.*
Frightened easily, and every fright goes, as it were, to the feet and causes heaviness in them. *Spong.*
Hypochondriac and hysterical complaints. *Grat. off., Mosch.*
Illusive sensations; some parts of the body feel as if they had become larger. *Alumina.*
Incapacity to think or fix attention; indisposition to move. *Gels.*
Inclination to weep; oversensitiveness to all, even the slightest, pain. *Coff.*

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Indifference and lassitude; lack of will power. *Picric ac.*
Irritable mood; gets impatient easily. *Cham.*
Memory, great weakness of; remembers with difficulty, forgets everything immediately. *Anacard.*
Mental activity, uncommon, with feeling of weakness during the forepart of the day. *Physost.*
and saniatic complaints alternate; these appear when the others disappear; overbearing, proud disposition. *Plat.*
annoyance, weak feeling in the back, worse from. *Calc. c.*
depression; the whole body is in constant motion, with loss of speech and. *Cimic. rac.*
emotion, the slightest, renews the tetanic or epileptic attacks. *Nux vom.*
throbbing and severe pulsation in the back, after. *Bar. c.*
excitement. *Ign.*
with heat in the hands during the day. *Sep.*
exertion, during, trembling of one or the other foot, mostly evenings, while standing. *Nux vom.*
indifference, unusual. *Phos.*
Mind, fearful, anxious, with pain in the small of the back as if lame, also with convulsive drawing over the hips forward, preventing walking. *Cocc.*
and body, great weakness of. *Curare.*
Moodiness, with flashes of heat and drawing pain from the neck over the back. *Nat. carb.*
Obstinate and extremely peevish. *Alumin.*
Oversensitiveness, with great inclination to take ill everything and get angry, with inclination to weep. *Cocc.*
Peevish, very. *Caust.*
Rage, alternating with convulsions. *Stram.*
Sad, discontented, illhumored, retired in himself. *Indigo.*
Sadness, apprehensiveness, depressed mood, heaviness of all the limbs. *Graph.*
with sighing, still silent grief. *Ign.*
Sensitive mood, with jerking of the limbs and joints, or in the whole body. *Nat. carb.*
Starts, is easily frightened. *Angust.*
Vexation after being slighted; trembling of the limbs, with dyspnœa. *Ran. bulb.*

Generalities.

Agitation and tremor of the whole body. *Curare.*
Although his gait is staggering, his legs follow the will as easily

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as if he had none; at the same time they seem to be longer, so that he thinks his foot is touching the ground when it is still a distance off. *Stram.*

All parts go immediately to sleep while sitting, principally the arms, hands and thighs, as also the abdomen, back and chest, with numbness and insensibility as if dead, and with tingling in those parts which are moved. *Merc. sol.*

Anæsthesia, complete. *Carbol. ac.*

Animal heat, loss of, general chilliness. *Cann. ind.*
unpleasant want of. *Alumin.*

Bad effects from anger and masturbation. *Sep.*
after mechanical injuries. *Arn., Hyper. perf., Rhus tox., Ruta gr.*

Beating and pulsation in all bloodvessels, also externally visible and with violent palpitation of the heart. *Tart. em.*

Body, bruised sensation of the whole, with frequent nausea. *Crot. tig.*
heavy and bloated; sensation of rigor. *Asafœt.*
is stretched out and becomes rigid. *Cina.*
stiff. *Ipecac.*
the whole, is in constant motion, with loss of speech and mental depression. *Cimic. rac.*
trembling of. *Nitrum.*

Breaks down from painful lameness, especially in the knee-joints, mostly from raising the legs up high. *Colch.*

Burning through the whole lower half of the body, although the limbs feel cold. *Phos. ac.*

Buttocks go to sleep in sitting. *Alumin.*

Buzzing and humming through the whole body. *Opium.*

Child leans the head to one side; the head falls to the side and is jerked backwards, with twitches in the limbs and cold perspiration on the face. *Cina.*

Chilliness, external, with internal burning of the affected spot. *Mosch.*

Clumsiness, excessive, with constant inclination to sit or lie; in sitting down he almost falls into the chair, not having the strength to do so slowly. *Stann.*
great, of the body while walking in the open air, obliging to sit down soon. *Spong.*

Cold air, very sensitive to, takes cold very easily. *Bell.*
bathing, complaints after, especially convulsions, paralysis. *Rhus t.*

Coldness, general, with dryness of the skin, which is like parchment, or profuse, clammy perspiration. *Ars.*
icy, of the body. *Lachn. tinct.*

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Coldness, icy, of the whole body, with paleness of the face. *Camph.*
numbness and deadening of the whole left side. *Caust.*
of the lower part of the body, with warmth or heat of the upper, especially the head. *Arn.*

Contortions of the muscles of the face, neck, fingers and toes; head is drawn to one side; mouth drawn down at one corner and the facial muscles affected with convulsive twitching; at turns these contortions would take the form of tonic spasms, while at other times the actions would be like a series of galvanic shocks, frequently of such violence as to precipitate the patient out of bed. *Ver. vir.*
of the whole body; jerking in the limbs and starting in the muscles. *Sumbul.*

Cramplike drawing here and there; tension through the whole body. *Oleand.*

Crawling as of a fly up one or the other extremity, with numbness of the part. *Euphras.*
here and there as from a fly. *Caps.*

Crosswise symptoms appear, right arm, left leg or *vice versa*. *Agar. m.*

Debility, general, of the limbs, and trembling, with vertigo and buzzing in the ears. *Arg. nit.*
great, with trembling of the limbs. *Agar. m.*

Decrease, gradual, of all excretions and diminution of nutrition, at the same time the skin becomes dry and discolored. *Plumb.*

Difficult to move the muscles; diminished power and excitability of the voluntary muscles; also with heaviness of the head and great weariness. *Opium.*

Dizziness, sudden, and like a mist before the eyes. *Arg. nit.*

Electricity, gentle shocks like, pouring through the whole body. *Xanthox. fr.*

Electriclike shocks, frequent, through the body, when at rest or in motion. *Graph.*

Emaciation, extreme, with exhaustion of all strength; drying up of the whole body. *Merc. sol.*
especially of the paralyzed limbs. *Plumb.*
general, great sensitiveness to cold air. *Calc. c.*
great, and prostration. *Iod.*

Everything seems too heavy and draws downward. *Bell.*

Exhausted, she is very much, after the slightest exertion, with violent snatching in the body and sensation as if she should faint. *Nux m.*

Fainting spells, while at table, with anxiety, nausea, paleness of the face, getting green and red before the eyes, trembling of

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the whole body, and afterwards eructations, which alleviate. *Magn. m.*

Fainting spells, with headache afterwards. *Mosch.*

with loss of sight and coldness. *Calc. c.*

Faint, tendency to, from the slightest cause. *Sumbul.*

Falling towards the left side, sensation as if, with dizziness. *Eup. pur.*

down, sudden, as from a stroke of lightning, with involuntary stool and vomiting. *Lach.*

Feels faint and weak. *Æscul. hip.*

languid and sleepy. *Merc. prot.*

Flaccidity or bloatedness of the skin. *Calc. c.*

Formication over the whole body, or in different parts (face, chest, soles of the feet, etc.). *Magn. m.*

Hallucinations of sensation, as if the whole body were very thin and tender, and therefore easily exposed to destruction and dissolution. *Thuja.*

of sight, everything appears yellow. *Santon.*

Heat, internal, dry burning, with anxiousness at night. *Ars.*

of the upper and coolness of the lower part of the body; relaxation of the muscles; inclined to talk. *Guarea.*

Hysterical attacks. *Nit. ac., Nux mosch., Nux vom.*

and hypochondriac complaints. *Grat. off.*

complaints and spasms, principally suitable for hysterical females. *Magn. m.*

fainting, attacks of. *Ign.*

Inclination to stretch, great, particularly the upper part of the body and the arms. *Oleand.*

Insensibility in the body. *Zinc. m.*

of the whole body, kind of, hands and feet go to sleep or are deathlike; rigidity of the hands and feet and nose. *Phos.*

Jerking and twitching of single limbs or of the whole body, during sleep and waking. *Lycop.*

kicklike twitching, also especially in the left leg and drawing the same up on the inside. *Stram.*

of the muscles here and there in small spots, or visible twitching, worse when at rest. *Menyanth.*

sudden, of the whole body, from below upwards, while sitting. *Lach.*

trembling. *Apis.*

upward, of the trunk, afternoons, while lying down awake. *Nat. m.*

Jerks, through the whole body, now the leg twitches, then the

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head shakes, as from a shaking chill, but with natural warmth of the body. *Sil.*

Lameness, sensation of, especially with the pains. *Meph. put.*

Lassitude, general feeling of. *Apis.*

Left side is mostly affected. *Baryt. c.*

Loss of motion and of the senses. *Plumb.*

Malaise, attack of, while walking in the open air, as if intoxicated and dizzy, with heat in the face, cold sweat, difficulty of breathing and heaviness of the feet, which causes staggering; stiffness and heaviness in all the limbs; weakness of the body, with undisturbed activity of the mind. *Thuja.*

general, in the whole body, with sensation as if paralyzed. *Phos.*

without being able to say where and what ails him. *Sabin.*

Mechanical injuries, bad effects from. *Arn., Hyper., Rhus tox., Ruta.*

Mobility, great, of the muscles. *Coff.*

Motion, dislike of all. *Caps.*

loss of voluntary, unsteady staggering gait. *Gels.*

Move, unable to, though he makes the attempt; the mind exhibits no effect. *Physost.*

Movements, sudden, involuntary, shocks and jerks. *Alumin.*

Muscles, frequent jumping of, in different parts of the body. *Agar. m.*

jactitation and jumping of the. *Bell.*

of, numbness and deadening of single limbs. *Caust.*

lameness of all the. *Alumin.*

of the face and limbs, spasmodic movements of the. *Agar. m.*

refuse their services, if not particularly paying attention thereto; if not reminded of it, he staggers in walking, drops his bread while eating, etc. *Hell. n.*

tension and shortening of the, heaviness of the body. *Baryt. c.*

twitching of the. *Teucrium m. v.*

and jerking of the, stitches, as from needles here and there. *Asaf.*

of the, here and there, as if caused by electricity. *Sulph.*

or jumping, tremulous twitchings of whole muscles or single fibrilla, in the face, on the hands, etc. *Sec. c.*

Muscular parts, spasms and twitchings in, numbness of the whole body. *Ambr. gr.*

power debilitated. *Sumbul.*

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Nervousness at night, with heat in the head, *Arg. nit.*
Nervous excitability, great tremulous, in the whole body. *Teucrium m. v.*
weakness. *Cocc.*
with twitchings. *Squilla.*
Numbness, all through the left side of the body. *Xanthox frax.*
and insensibility of the whole body. *Oleand.*
and obtuseness in the affected parts, after moving them, sensation of. *Rhus tox.*
and tingling over the whole body. *Acon.*
numb tingling and formication in the fingers, hands, toes, upper lip and tip of the tongue. *Phos.*
of single parts. *China.*
with tingling in them and insensibility. *Rhus tox.*
of the lower half of the body; great clumsiness of the body, while walking in the open air, obliging to sit down. *Spong.*
of the whole body, as if asleep, sensation of. *Crot. tig.*
diminution of sensibility. *Kali brom.*
peculiar sensation of, almost like that of paralysis from apoplexy. *Ox. ac.*
Old people and lean persons, suitable for. *Ambr. gr.*
prematurely growing; emaciation of the body. *Opium.*
Oversensitive to external impressions, as light, odors, noises, touch, etc. *Phos.*
Oversensitiveness of the whole body, great, painful; the least inadvertent touching or stepping causes pain or disagreeable concussion or quick crawling through the whole body, up into the head. *Spigel.*
painful, trembling of the limbs. *Arn.*
to all, even the slightest, pain; inclination to weep. *Coff.*
to noise; tremulousness of the hands; vertigo, as if the bed were moved, renewed by thinking of it. *Plumb.*
Pain, cramping, with lameness and numbness; neuralgic pain in all the extremities. *Cimic. rac.*
drawing, through the whole left half of the body, with sensation as if gone to sleep, mostly felt on hand and foot. *Mezer.*
lamelike, in the region of the hip, around the pelvis, or tingling, biting and itching. *Evonym.*
Pains and chilliness in the back, from suppressed menstruation. *Puls.*
appears on small longitudinal spots. *Ox. ac.*

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Pains, cramplike, throughout the whole body. *Euphras.*
shaking, suddenly appearing; lamelike dulness in the limbs; twitching and vibrating of the muscles here and there. *Valer. off.*
simple, become violent from mere touching. *Ign.*
sudden, jerking. *Podoph.*
tingling, in the affected parts, especially in the face, spine and breast-bone. *Rhus tox.*
wandering, with urging to urinate and occasionally with electriclike shocks. *Meph. put.*
with lameness and weakness of the affected parts. *China.*
Painlessness with ailments; great lassitude of the whole body, particularly of the lower extremities. *Lauroc.*
with the complaints. *Opium.*
Pallor of the face, great, with attacks of trembling weakness of the lower extremities, disappearing on walking. *Zinc. m.*
Paralytic bruised pain in the long bones and in the joints of the limbs; also in the small of the back, on motion; even when sitting and standing the back pains as if beaten and the muscles of the legs are sore to the touch. *Calc. c.*
Paralyticlike sensation, accompanied by drawing or tearing pain, and the drawing and tearing pain hardly ever occurs without leaving a numb sensation in the part. *Cham.*
of numbness and rigidity here and there; also with trembling and palpitation of the heart. *Plat.*
Parts affected feel numb, as if made of wood. *Nitr.*
Perspiration from slight bodily exertions. *Agar. m.*
Power of locomotor muscles, complete loss of. *Ver. vir.*
Pressure, disagreeable, sensation of, on the internal walls of the trunk, as if the whole body should be driven asunder, seemingly starting from the nerves, and stronger on the right side than on the left. *Zinc. m.*
external, renews and aggravates the suffering. *Cina.*
Pressing, sharp, here and there; stitches, as from knives. *Ign.*
Priapism; painful erections; opisthotonos. *Canth.*
Prickling in different parts of the body, especially in the lower extremities. *Grat. off.*
sensation through the whole body. *Lob. infl.*
Relaxation of the whole body, feeling of, especially in hands and feet; indisposition to move. *Gels.*
Respiration, slow and difficult. *Kali hydrocyan.*
Restless and shaky; trembling sensation throughout the whole body. *Kali brom.*

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Restlessness and tossing about, excessive; extreme sense of nervousness. *Acon.*
great, which prevents sitting long. *Sulph.*
of the whole body in all parts, does not allow him to sit or write, with headache after sitting long. *Sil.*
trembling and sinking feeling; general lame and bruised feeling. *Cim. rac.*
unbearable, through the whole body. *Stann.*
Rigidity, complains of general, with cold limbs and brown nails. *Ox. ac.*
of the whole body, bending the back like an arch, from trembling of the limbs, distorting all the muscles. *Opium.*
Runs over quick when he moves from one place to another; takes two steps at once on ascending stairs, thinking them to be one, until he falls. *Stram.*
Sciatica; intense pain along the sciatic nerve, in its larger ramifications. *Gnaphal.*
Sensation as if drops of cold water were falling (on the head, from the arms, from the heart). *Cann. sat.*
as if now a quick fire and again icy-cold water were running through the veins. *Opium.*
as if the body were expanding, especially the face and head; he feels as if the bones of the skull should go apart, with increased warmth. *Arg. nit.*
of dryness or coldness in inner parts. *Calc. c.*
of lameness, especially with the pains. *Meph. put.*
Sensations, illusive; some parts of the body feel as if they had become larger. *Alumin.*
Sensibility to fresh air, excessive; the least exposure causes shuddering and chilliness, with pains in the back. *Nux vom.*
Sensitive, remarkably, to the least draught of cold air. *Acon.*
Sensitiveness to cold air, great, which seems to penetrate the body. *Cim. rac.*
Shocks, sudden, through the whole body; jumping of the muscles. *Guarea.*
through the whole body, evenings, in bed, with shuddering through the skin; twitching and jerking in the limbs while sitting and lying. *Sulph.*
Sinking feeling when lying on the side. *Sil.*
of strength, also rapid. *Sec. c.*
sudden; sudden paralyzing loss of power, even while sitting, but mostly by moving about. *Nux vom.*
uncommon, with trembling of the whole body and coldness of the extremities. *Hyosc.*

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Sinking, perceptible, and diminution of strength; also with inability to move and want of tone of the solid parts. *Opium.*
Soporous condition. *Arg. n.*
Soreness and painfulness of the whole body and extremities, as if he had been bruised or beaten. *Eupat. perf.*
Stand or talk, can neither. *Atrop.*
Starting, frequent. *Colch.*
Stiff and sore over the whole body, in all the joints, bones and muscles. *Lith. carb.*
Stinging, very firm, as stinging-burning pains in many parts, as if seated in the skin, sometimes combined with a sense of heaviness, numbness or swelling. *Acon.*
Stitches, dull, in the region between the true and false ribs. *Ign.*
from all parts of the body, especially from out of the tips of the fingers. *Hyosc.*
here and there. *Hipp. man.*
also twitching or burning, always leaving behind an immobility of the parts. *Sep.*
with bruised pain, or jerking through the whole body. *Nux vom.*
as from needles; twitching and jerking of the muscles. *Asafœt.*
Strength apparently undiminished, with difficult or clumsy walking. *Sec. c.*
want of, of the whole body, with sensation as if the marrow in the bones were stiff and coagulated. *Angust.*
Stretch one's self, inclination to. *Sil.*
Sweat, profuse, on abdomen and back, after and while walking in the open air. *Caust.*
Syncope, attacks of. *Sulph.*
repeated; deathlike fainting. *Hyosc.*
Tearing twitches, like electric shocks, through one side of the body, with sensation of lameness. *Colch.*
Thrill, quickly diffused and transient, but at the same time very peculiar, often extended to the minutest extremity. *Sanguin. can.*
Throbbing in the whole body, especially in the vertex. *Glon.*
Tired and as if bruised in all limbs, especially in the back, on standing up, after sitting. *Apis.*
easily, by slight exertions; general loss of power. *Crot. horr.*
Totters in walking, with sensation of malaise throughout the whole body, with unsteadiness in the limbs. *Arg. nit.*
Trembling and staggering, immobility, insensibility, stiffness of the body. *Hydrocyan. ac.*

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Trembling and tremulous sensation through the whole body. *Graph.*
appears to be falling, if not supported, while rising from a seat or walking. *Stram.*
debility and paralytic weakness. *Anacard.*
frequent, in the whole body; unrest in the limbs; feels the beating of the pulse in the whole body, mostly at nights. *Sep.*
general, violent excitation of the whole body. *Crot. tig.*
internal; attacks of fainting; convulsions; spasmodic movements. *Tart. em.*
of inner parts. *Calc. c.*
of the whole body; great weariness; general relaxation of the limbs, also without sensation of weakness. *Stram.*
with nausea. *Tabac.*
with spasmodic twitching of the muscles, especially on left side of the chest, with great apprehension and fear of impending calamity. *Nat. sul.*
restlessness. *Arn.*
sensation in the whole body, like pulsating. *Phos.*
through the whole body, without trembling. *Sulph. ac.*
or first in the hands and feet, then chilliness and forcible trembling of the body as in the highest paroxysm of a chill, with chattering of the teeth, whereby the face is warm, the hands cold. *Plat.*
through the whole body; constant restlessness, especially of the legs; must change their position. *Prun. spin.*
tremulous weakness after every stool; disappearing in the open air. *Con. m.*
violent, at every exertion of the moved parts, even of the stretched out tongue. *Sec. c.*
of the body, especially of the upper and lower extremities. *Sabad.*
with cold skin and small weak pulse. *Asafœt.*
Tremor, general trembling. *Agar. m.*
Tremulousness and hastiness when grasping at anything. *Rhustox.*
and twitching of the muscles in various parts of the body. *Scutell.*
painful, with beating in the bloodvessels. *Plat.*
through the whole body early, but with warmth; trembling of the hands and unsteady walk; internal trembling; weariness, with trembling at every motion. *Sulph.*
Twitching and spasm, cease during sleep. *Agar. m.*

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Twitching and vibration under the skin. *Nux vom.*
drawing in the muscles, as if pulled by a rope. *Puls.*
here and there in the body. *Ratanh.*
whole body. *Nitr.*
now of the upper lip, then of the hands, fingers or thighs, especially on the left side, and always toward the left. *Sabad.*
of the muscles, jerks through the body, evenings in bed. *Ran. bulb.*
of the whole body or of single limbs. *Thuja.*
violent, of the limbs and face, with stiff stretching out of the body. *Lach.*
with starting of the whole body, evenings on going to sleep. *Stront.*
Uneasiness general, with twitching of the muscles and sticking pains in various parts of the body, occasionally extending up along each side of the forehead. *Scutell.*
Unrest through the whole body, with indescribably disagreeable sensation. *Meph. put.*
Unsteadiness of the whole body; cannot stand; seems to be falling; jerking, jumping of the tendons. *Hyosc.*
Urinary difficulties. *Berb. vul.*
Urine light-colored, increased in quantity; great muscular debility. *Picric ac.*
Vertigo and dimness of sight. *Gels.*
Vibration in different muscles; twitching of the muscles here and there; much visible twitching in the body, in the face, in the arms and hands. *Zinc met.*
fine, nervous, as if going into the interior of the bones, causing great anxiety. *Meph. put.*
Vital activity excessively augmented; hastiness in all movements. *Menyanth.*
turgor, diminution of. *Hydrocyan. ac.*
Walk, cannot, from spinal affection. *Hyper. perf.*
complete incapacity to, also with inability to carry out easy movements and manipulations. *Sec. c.*
Wants to sit erect. *Lact. vir.*
Weakness, attacks of faintlike. *Carb. veg.*
does not allow him to stand long; it makes him perspire and tremble. *Therid.*
great, and exhaustion from loss of animal fluids and after severe diseases. *China.*
long-lasting, with great inclination to perspire when moving about and during sleep. *China.*
nervous. *Dig. pur.*

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Weakness, with sensation of lameness through all the limbs. *Colch.*

of the whole body, with shaking, trembling and running of tears from the eyes, forenoons. *Ol. an.*

sensation of, throughout the whole body, like a languishing of all strength, with an inclination to lie down or sit, which produces a sort of semiconsciousness, as if going to sleep. *Tarax.*

sudden general, at noon, with trembling and sensation of bulimia, more while standing. *Zinc. met.*

towards evening, with shuddering and cold between the shoulders at every motion, with staggering and stitches in the temples, forehead and vertex. *Tabac.*

tremulous; the weakness and tiredness manifests itself mostly as heaviness. *Puls.*

Weariness, great, after slight exertion. *Spig.*

and desire to lie down. *Plant. m.*

as after a long journey; especially bad in the knees, with drowsiness and listlessness. *Nux mosch.*

general, or now more in the upper, then more in lower extremities. *Sec. c.*

sensation of, in the eyes, arms, bend of the knees, etc., with overexcitability of the nerves; oversensitiveness of all the senses. *Valer. off.*

throughout the whole body; restlessness of the body; inclination to move the affected parts. *Rhus tox.*

with frequent yawning, pressing in the left half of the head, sparks before the eyes and lame-like immobility of the limbs of the right side. *Stront.*

with irresistible drowsiness. *Stann.*

of the whole body; she scarcely dares to raise the arm. *Sulph. ac.*

with trembling of the knees while standing, and trembling of the hands while writing. *Oleand.*

like heaviness of the body. *Squilla.*

with aversion to everything, with drowsiness, general dulness, sadness and loss of memory. *Opium.*

with trembling at every motion; deficient vitality like internal chilliness, with almost constant alternation of cold and heat; pale countenance, with blue borders around the eyes, and with dread of heat when it is cold, and of cold when it is warm. *Sulph.*

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LXV.

ELECTRICITY AS AN ADJUNCT IN THE TREATMENT OF SPINAL DISEASES.

By J. H. Buffum, M.D., Pittsburg, Pa.

It is in cases of paralysis, whether from cerebral or spinal lesion, that electricity meets its most important indications, and without this useful adjunct we would be enabled by our remedies only to relieve the central lesions, without effecting a cure of the paralyzed muscles and restoring their lost volitional contractility.

The curative action of electricity has been so efficient, complete and satisfactory, that cases which heretofore have been thought hopeless are now very often greatly relieved, if not permanently cured by its proper and persistent use in the hands of the educated profession.

Its administration in all cases must be made with that care and individualization which should characterize the prescription of any remedy in any case.

As yet the provings of this potent agent are in a very fragmentary condition, but with carefulness and observation these may be systematically enlarged, and we shall soon be able to fully define its prescription according to the law of similars.

Among the results to be obtained by the use of electricity, are the restoration of the ability of the paralyzed muscles to respond to the will, and the maintenance of the circulation, together with healthy nutrition within the affected organs. Electricity, therefore, is not indicated when the paralyzed muscles respond to the current as actively as the corresponding unparalyzed muscles, and still less is it required when the electric contractility and

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sensibility are greater than normal. Under these circumstances its employment may do harm. Again, it is very injurious to use the currents while the central lesion still exists, as will be recognized by the greater increased muscular irritability and rigidity of the paralyzed muscles in hæmorrhagic or acute inflammatory conditions of the nerve-centres.

The success of the electrical treatment in paralytic affections will depend on the exercise of judgment in determining the indications for it, and of tact in its employment. The advantage of experience in the practical application, together with the time which it requires, makes it desirable that some members of the profession should give it special attention. Unfortunately the employment of electro-therapeutics in this country is for the most part in the hands of uneducated practitioners, who know but little of the agent which they employ, and still less of the human organization.

"Die milde macht ist gross" is particularly true of the mild galvanic current, which is now known to be the best for cure, and which when uninterrupted causes little sensation of any kind, and the potentiation of which may be increased in a marvellous manner by the complete rheotomes which are now made.

It is the galvanic current which is the most useful in treating the diseases of the spinal cord, while the faradic current finds its place in relieving the effects of the lesion upon the peripheral muscles.

The fact that paralyzed muscles will not of themselves resume at once their normal condition, even after the conditions causing the paralysis are removed, is highly important. Nerves and muscles may become permanently paralyzed from disease. Having been for a long period paralyzed, they remain so indefinitely if proper efforts are not made for their restoration.

In treating the paralysis, resort to the use of electricity must not be had immediately, or too soon, for little or no result will be obtained by trying to rouse the paralyzed muscles while the causative conditions still sustain the paralysis, as restoration at that time is out of the question. After the paralysis has existed for some time, restoration must not be expected to take place spontaneously, but persevering efforts are often necessary for

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recovery. When the paralysis has existed so long that the muscles and nerves have undergone degenerative changes, we cannot expect success.

The application of the faradic or galvanic current furnishes important information respecting the condition of the affected muscles. When a current of sufficient intensity is passed through healthy muscles, contractions are excited. This susceptibility to the electrical current is called electro-muscular contractility, or electric irritability. The passage of the current through the muscles causes more or less pain, not due to contraction excited by the current, and this pain denotes what is called electro-muscular sensibility.

The state of paralyzed muscles as regards electro-muscular contractility and electro-muscular sensibility must always be taken into account in the application of electricity. In muscular paralysis from intracranial affections, the paralyzed muscles, as a rule, respond not less, and in some cases even more, than in health, until they begin to suffer from prolonged inaction or defective nutrition. The electrical current in these cases is, to some extent, a test of the state of the muscles as regards their capacity for contracting under the influence of volition. There have been, however, exceptional cases reported where the volitional contractility is regained while the electro-contractility is defective or lost. It seems to be the rule, that when muscular paresis is due to intraspinal affections, to injury of nerves, or traumatic causes affecting the muscles themselves, the electro-functions are impaired or lost irrespective of changes arising from defective or disordered nutrition.

In proportion as the muscles or nerves undergo degeneration of structure as an effect of long-continued paralysis, they respond feebly, or not at all, to the electrical current. Hence, in certain cases, electricity gives information of the hopelessness of paralysis. The electro-contractility of paralyzed muscles is sometimes lost, and the electro-sensibility remains intact; when this is the case, the prognosis is less unfavorable than when both are wanting. In cases in which the paralyzed muscles fail to respond to the electrical current from defective innervation, as an immediate or speedy result of morbid conditions affecting the spinal cord or

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nerves, recovery is not to be expected so long as the paralysis is continued by the diseased conditions. Yet under these circumstances the judicious employment of electricity may promote circulation and nutrition, and thus tend to keep the muscles in a state of preparation for resuming their capacity to act under influence of the will, when the conditions sustaining the paralysis are diminished or removed.

A careful study of the effects of the galvanic and faradic currents in the treatment of disease, warrants the belief that it is an agent which we too often throw aside, either from want of accurate knowledge of its properties, or from the time and trouble necessary to keep suitable apparatus in order and make the application. Elaborate apparatus is not necessary for the treatment of spinal disease or its effects, but that which is used should be thoroughly understood by the operator, lest more harm than good be accomplished by its use.

The value of electricity in the treatment of diseases of the spinal cord will become evident to all who will give it that fair consideration which is due from all who subscribe to the doctrines of Hahnemann.

It has been found by careful experimentation that when a galvanic current of sufficient intensity to overcome the resistance of the circuit is passed through living animal tissue, the bloodvessels of the parts situated between the electrodes become dilated and engorged, producing intense hyperæmia, and the absorbents are stimulated to increased activity. This effect is modified by the strength of the current, and from a mild hyperæmia under a mild current it may go on with strong currents to the destruction and mechanical separation of the tissues of the part.

When a strong galvanic current is passed through the spinal cord, spasms of the body follow. The same effects, but in a much less degree, are produced by the passage of the faradic current. There are two portions of the spinal cord, the cilio-spinal (between the seventh cervical and sixth dorsal vertebræ) and the lumbar region (at a point corresponding to the fourth lumbar vertebra), which present noteworthy effects on the passage of a galvanic current. At these points the sympathetic

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nerve is electrified by the current, producing a dilatation of the iris in the first case and a decided contraction of the vas deferens, bladder and lower part of the rectum when its current is passed through the lumbar region.

The faradic has but very slight effect upon the spinal cord, but upon the paralyzed muscles presents marked contractile effects.

In spinal congestion, on the application of either current we find the electro-muscular contractility of the paralyzed muscles is always more or less diminished, though not to the same degree as in some other affections of the spinal cord. As a general rule the more distant the muscles are from the centre, the less is their electro-muscular contractility. In some cases the most powerful faradic currents will not produce any contractions of the paralyzed muscles, but all the muscles will respond more or less feebly to the interrupted galvanic current of high intensity.

In cases of congestion of the spinal cord, the use of electricity is always proper, and when carefully applied capable of great good. The constant galvanic current alone should be applied to the spine over the affected part of the cord. The intensity and quantity should be as great as the patient can endure without discomfort. The current should be passed downwards or away from the spine, so as to relieve the congestion, which would be increased by a reversal of the direction of the current. The duration of the application should be from five to ten minutes, never more than ten. The frequency of the application will vary with individual cases, and may generally be used every other day, its effect watched and a second application not made until the effect of the first has passed off. The induced or faradic current is used to excite the paralyzed muscles to action, and in this way keep up the nutrition of the part and prevent any tendency to atrophy from want of use. This current may be used every day, and for a longer period than the galvanic, generally ten to twenty minutes will be long enough, and the application should never be continued long enough to cause fatigue.

In spinal anæmia, we are enabled by the use of the galvanic current to cause an increased flow of blood to the part, and in many cases of spinal irritation this current is more efficacious

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than any other remedy. In its application the negative electrode is to be applied below the seat of pain, and the positive an equal distance above. The current thus passed through the cord conduces at once to the dilatation of the bloodvessels and the consequent improvement of the nutrition of the spinal cord. The time of application should not be longer than fifteen minutes, and no single application to a part should last longer than three or four minutes. A current strong enough to cause a slight burning at the electrodes is generally of sufficient quantity and intensity. For the relief of the spinal tenderness one pole should be applied directly to the painful part and the other to the right or left a distance of a few inches. The application may be made daily for awhile, and as soon as improvement is manifest longer intervals should intervene.

The application is essentially the same whether the antero-lateral or the posterior columns are the seat of the anæmia.

The faradic current here as before is useful in keeping the paralyzed muscles exercised and so preserving their nutrition.

In some cases of spinal anæmia it may be necessary not only to improve the nutrition of the cord, but also to reduce the quantity of blood sent to the brain. To accomplish this result the negative electrode must be placed over the fifth cervical vertebra and the positive electrode on the sixth dorsal. The passage of the current through these limits causes an excitement of the sympathetic, as has been already stated, as is evinced by the dilatation of the pupils. Then the contraction and dilatation of the retinal vessels, on the opening and closing of the circuit, may be seen by aid of the ophthalmoscope.

In chronic spinal meningitis the galvanic current may be used in the same manner as for spinal congestion, and in some cases has certainly proved very useful. The faradic current should be used as before stated for the paralyzed muscles.

When there are bed-sores from this or other affections of the spinal cord, there is nothing which will give as prompt curative results as the simple silver and zinc battery, which may be easily constructed by taking a thin sheet of silver cut to the size and shape of the ulcer, the silver then connected with a piece of zinc of about the same size by a fine insulated copper wire several

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inches in length. The silver is applied directly to the surface of the ulcer and the zinc placed on the skin above, with a piece of canton flannel or chamois skin kept wet with vinegar or salt water intervening. The position of the zinc should be changed once in forty-eight hours to prevent blistering. A few hours will be sufficient to show improvement; two or three days will generally be sufficient to heal the surface over.

In infantile paralysis from changes in the spinal cord, electricity demands attention at once, and applied soon after the paralysis is manifest, and before atrophy has begun, there is every prospect of a favorable prognosis. The current should be applied by metallic electrodes covered with wet chamois skin, directly to the skin over the affected muscles or to the nerves which pass to them. The current should be of sufficient strength to cause contractions, and if this effect is not produced by the use of the strongest induced currents, then the interrupted galvanic must be used. If contractions can be produced by the use of either current, the recovery is but a matter of time. The application should be made daily for a few times, then every other day. Ten to twenty minutes is sufficient time to prolong the application. When there is fatty degeneration of the muscles, the application of the galvanic current will arrest the progress of the disease by improvement of the nutrition.

In treating spinal paralysis of adults recourse must be had to electricity as soon as the progress of the disease is arrested. The faradic current will be the best to use on the paralyzed muscles if they will respond to it; if not, then the interrupted galvanic of sufficient intensity to cause contractions must be applied until they show signs of returning motility, when a return to the faradic will accomplish the best results. The treatment of these cases by electricity will always be followed by encouraging results, and many cases are reported cured through the agency of this remedy alone.

In progressive muscular atrophy, resulting from disease of the anterior tract of gray matter of the spinal cord, as strong a galvanic current as the patient can endure should be applied with the positive electrode to the nape of the neck, and with the negative lateral passes on each side of the spinal column should be

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made for ten minutes, and the sittings repeated every other day.

A powerful faradic current, slowly interrupted, must be applied to each of the atrophied muscles. If the muscles do not respond to the action of either strong induced or direct currents, it is probable that the muscles are entirely atrophied and beyond the reach of any remedy.

A better knowledge of the possibilities of electro-therapeutics will doubtless enable us to modify, to some extent, the prognosis of this disease. The persistent following out of the treatment that has within the last few years proved so successful, will tend to arrest the disease far more frequently than has been done in the past, and cases heretofore considered hopeless will make approximate recoveries, at least.

In progressive locomotor ataxia, the electro-muscular contractility, or irritability at least, is always increased. This distinguishes this affection from ordinary paralysis of motion depending on anterior spinal sclerosis, in which the electro-muscular contractility is usually diminished.

In treating cases of ataxia the best results seem, thus far, to be obtained by galvanization of the spine and faradization of those portions of the body that present anæsthesia. For this purpose the metallic brush may be passed all over those parts of the body that are anæsthetic. Here the reflex effect of powerful peripheral faradization on the cord seems of greater service than galvanization of the spine. The progress of the disease is modified somewhat by the introduction of electricity into the treatment. It certainly seems to arrest the disease in many cases, and render the patient more comfortable.

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LXVI.

THE PRINCIPLES ENUNCIATED BY SAMUEL HAHNEMANN AS AUTHORITY IN MEDICINE.

By Henry N. Guernsey, M.D., Philadelphia.

As every language has its grammar whereby all students may acquire a knowledge of and become skilled in the use of said language, as every form of computation or calculation of numbers has its rules of arithmetic whereby all so wishing can become cognizant of and skilled in the use of numbers, so in *medicine* there is a code of rules embodied in a text-book whereby all physicians can acquire a knowledge of the way to practice medicine and can become skilled therein.

As a thorough *acquaintance* with the principles and rules of grammar will lead us all to use and speak a language correctly, as a thorough knowledge of arithmetic will bring us all to a correct and harmonious use of numbers, so in medicine, a thorough and comprehensive understanding of this one text-book will bring and cement us all into one harmonious brotherhood of successful healers.

The text-book to which I refer is Samuel Hahnemann's *Organon of the Healing Art.*

After studying this text-book for a period of thirty years, and during all this time having resolutely and indefatigably applied its precepts to aid me in the cure of all manner of diseases and every form of sickness, to the extent of my ability, and having on every occasion observed its unfailing reliability, I stand here

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to-day, firm and immovable in the advocacy of this text-book as the only means of harmonizing the profession; as the only means whereby this American Institute of Homœopathy can achieve to itself a glorious future and can become a blessing to humanity throughout the world. Without the benign and pacific influence of this great and eternal embodiment of truth, Hahnemann's *Organon*, this Institute would grow more and more discordant, till its organization might be completely undermined. At some future time, however, sooner or later, another society would be called into existence, whose basis, whose keystone and whose ceaseless growth would be in full agreement with the teachings of the immortal Hahnemann, and would thus be founded upon the rock of eternal truth.

My pilgrimage in the practice of medicine has not been solitary. Dr. Constantine Hering, the father of homœopathy in this country; Dr. A. Lippe, that stanch supporter of the true principles of our art; the sage Raue, who swerves not to the right nor to the left; my friend and classmate, Dr. Edward Bayard, ever resolute in maintaining the cause he has espoused; our late lamented Carroll Dunham who, at our meeting of only last year occupied the highest place of honor that we could tender him, and for whose untimely removal from our midst we so grievously mourn; P. P. Wells, that deep and accurate thinker; William E. Paine, another link binding us to eternity, whose loss can scarcely ever be replaced in all New England; F. R. McManus, who is now in attendance at this meeting, and who, at the advanced age of threescore years and ten, is firmer than ever in his belief in the *Organon*. All these and many younger members of the profession were and are my daily companions in receiving in full harmony the doctrines of the master of our art, Samuel Hahnemann. I speak now for myself and for those I have the honor of referring to above, that this American Institute, individually and collectively, in so far as *the law of cure* is concerned, could not spend the next thirty years so profitably as to study, to discuss and to apply rigidly in daily practice every rule and precept given us by our master in the *Organon of the Healing Art* and in his *Chronic Diseases*. These works are eminently practical throughout. They are not of a character to be read

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once and then laid aside, but they are for *study*, for *laborious* study every day of our lives, that we may gain a clear insight into their practical teachings. Constant experience will prove to us that the more perfectly we apply his principles to practice in every case we prescribe for, the more satisfactory and complete will be our success in curing the sick.

Mr. President and brethren, let us begin this good work at once; *then* we shall become purer, more scientific and more able practitioners; then we shall have offered upon this floor for our consideration, fewer and fewer papers portraying shocking and inconsistent modes of practice, from which nothing can be learned *except* the utter unwillingness of their authors and writers to practice homœopathy.

On the other hand we shall have papers better and more scientific, showing profundity of thought in carrying out and promulgating the principles of Hahnemann. Then will this Institute be in the era of progress in improving the science and art of medicine.

Samuel Hahnemann had a comprehensive and sagacious mind. None but he has ever produced such a masterly and exhaustive work, marked in nearly every line by such depth of thought, and so eminently practical. A lifetime is not sufficient to learn this work or to see into but a very small part of its beauties. Our confrere, Constantine Hering, M.D., with his vast literary and medical knowledge and practical acquirements, though a reader of this unrivalled production for *over fifty years*, still continues to study and ponder over it, ever and anon finding something new and something more to be learned. It *is* true that as a medical guide-book it presents ample room and enough scope for investigation to satisfy the most ardent thirst for knowledge, and diversity enough to suit every variety of taste, order of intellect and degree of comprehension.

Let our Institute enter upon this noble work at once and in full earnest, individually and collectively; then will its perpetuity, its strength and power of might be felt in and throughout the world. Do this, and allopathy in all her strongholds will speedily be replaced by her rival opponent, homœopathy,

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and nations will rejoice more than ever in its mighty healing virtues.

Having carefully studied, considered and put through the ordeal of repeated tests the subject discussed, I have arrived at the foregoing conclusions, and I now submit the result of my reflections and investigations to the judgment of others. I wish to invite, on the contents of this paper, the severest scrutiny and the closest, but at the same time *candid*, criticism, trusting that if the true view is not here taken and the correct conclusions arrived at, some one will undertake the discussion and will bring out the true view.

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APPENDIX.

DISCUSSION.

SECOND DAY—MORNING SESSION.

DR. THOMAS MOORE, Germantown, Phila.: I wish to relate an interesting circumstance connected with the uses of electricity, from which you can make your own deductions and application. Some years ago the Atlantic cable gave no little trouble to the electricians; it would work for awhile and then it would cease working. I have been told by persons who knew all the circumstances, that at first they used the most powerful batteries to overcome the difficulty without avail, and that they then used the weakest, and have done so ever since, and have had no further trouble with the cable.

DR. S. LILIENTHAL, of New York: In regard to Dr. Guernsey's paper, I doubt if there is any one in this assemblage who has a word to say against the *Organon* or its use; but at the same time it is hard to sit quietly and hear over and over again that homœopathy is going to the dogs, unless this man's or that man's notions are followed out. There is not a member of this Institute, nor a homœopathist outside of its membership, who does not as fully believe in the *similia similibus curantur* of our system as Dr. Guernsey does, and follows it out in practice to the best of his ability. It is not becoming in any man to find fault with his fellows. No one of us stands so far above his fellows as to be entitled to find fault with their ways of practice. No doubt every one of us has pondered over cases for hours and hours, and even then been in doubt as to the proper remedy. We are not all Herings and Dunhams and Guernseys, to whom these things seem to come as by intuition. But it seems to be the case that if any one falters or has doubts, or in his doubt and faltering does something that somebody considers to be not homœopathic, he is to be told that he is no homœopath, that the sooner he goes back to the flesh-pots of his allopathic Egypt,

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after which he is hankering, the better, and the cry goes up that homœopathy is going down because its friends do not follow the *Organon*. We all swear by the *Organon*, as much as Dr. Guernsey does, and we have all read it and studied it over and over again, but the *Organon* is not everything. We give our students the *Organon* as their first book in homœopathy, their first lesson; but there are other books, works on obstetrics, on diseases of women and children, and other diseases, and these must be studied also. It is the first and paramount duty of the physician to cure his patient, and to cure him as best he can, according to the best lights he has.

Dr. F. R. McManus: I feel, Mr. President, in attempting to make some remarks to the Institute, as if, perhaps, I were a boy trying to teach his elders; but it seems to me nevertheless, sir, that there must be something radically wrong in this matter. To me Hahnemann's *Organon* is very precious, and I feel as much reverence for it as does my friend Dr. Guernsey; but are we to exclude everything else because we have *it?* In this respect I agree with my friend Dr. Lilienthal.

We all believe in the homœopathic doctrine, but there are some of Hahnemann's principles that many of us disregard, and the chief of these is the admonition to give a single dose and wait. When I first investigated homœopathy, some forty years ago, my faith in Hahnemann was shaken somewhat on finding that he recommended antidotes for all his remedies, even Natrum muriaticum; but experience soon taught me that Hahnemann was correct. I think that very often the cause of failure to cure on the part of physicians is to be found in the repetition of the dose. The more thoroughly homœopathic a medicine is to a case, the stronger the reason why the dose should not be repeated frequently. When we use the prophylactic for small-pox, vaccination, we do not repeat the dose. Having inserted the virus, we do not rush in to see our little patient in two hours or in two days, to see how he is getting along, even though variola may be next door to him. No, we have confidence in our measure; we know what course it will take, and we go at the end of five or six days to see him, and not before. I sometimes read cases in the journals where the relator tells how he gave Aconite every fifteen minutes for two hours, and how, then, the child being no better, he gave Belladonna every fifteen minutes for two hours, and, having still no favorable results, he then gave these two medicines in alternation every fifteen minutes for two hours, and then, perhaps, went on to another drug in the same manner. I should not like to be treated by a homœopathist of that sort were I sick.

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I will relate a case that will illustrate to some extent these points. A gentleman called on me some years ago who said that he had suffered much and long from lumbago, had been under the care of a number of physicians without benefit, and came to me on the advice of his wife. After studying his case I gave him a dose of Sulphur 30th, with the full assurance that that medicine would cure the case. In a moment of professional weakness I asked him to return in two days, which he did, and told me he was no better at all, not one bit better. In another moment of weakness I gave him a dose of Sulphur 6th. In a few days he came in to settle his bill, said he would take no more medicine, as it did him no good, and that he in fact felt worse that day than he had done for some time. Some five or six weeks after this he hailed me on the street and told me that he was well. In reply to my queries, he said he had taken no medicine since I had prescribed for him; that one day, almost two weeks after he had last seen me, he had found while going along the street that he was suddenly freed from pain, could stoop, and could not bring the pain back by movement of any kind. "I have been cured by nothing, after all," said he. "Why were you not cured by nothing before?" I asked him, and at the same time laid claim to having cured him myself. "How can that be possible?" he asked. "It is possible because I selected the medicine that would cure you." My opinion was and is, that there was a conflict in that man's system between the doses of the 6th and 30th of Sulphur he received and the disease, and that when the conflict was over the force of the medicament prevailed and a cure resulted. I believe that if I had given him a single dose of the Sulphur 30th, and fifteen of my friend Guernsey's placebos, and told him to take one of these every night and then come to me, I would have done better than I did.

I am satisfied that the want of success of some homœopathic practitioners does not depend upon any lack of faith in the law of cure, but upon the frequent repetition of the dose. Dr. Guernsey seems to have what I may call a professional virtue quite rare—he is able to wait. He does not seem to have that itching desire to give dose after dose, but he gives his one dose, and having faith in his selection of the remedy he waits a week or two to see just what it will do. I believe this is why he is able to relate to us such marvellous cures, of which we must believe either that his single doses cured or that they were cured by nothing.

DR. CONRAD WESSELHŒFT: *Mr. President:* I am very much interested in this discussion, and I desire to define my position

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on this very interesting and important question. I yield to no man in a firm adhesion to principles that I understand. Among such principles are those enunciated as belonging to homœopathy. But it seems to have been forgotten in the general consideration of these principles that there is a vast difference between understanding, appreciating and upholding them and making a practiced application of them. We may understand and appreciate great principles, political, philosophical and scientific, but when we come to make a practical application of them difficulties place themselves immediately in the way that oftentimes are greater than our faith in the principles themselves. This should not be the case, but that it is so no one will attempt to deny. It is claimed that the mere belief in and adoption of Hahnemann's principle is all that is necessary to the cure of the most difficult case. But when we hear of some cures wrought in this way, and of the remedies by which they have been wrought, and consider what they are, how they were proven, what constitutes their pathogeneses, and how they were applied, we cannot help feeling a little skeptical about them, and are almost ready to accept the other horn of Dr. McManus's dilemma, viz., that they were cured by nothing. We all know that there are errors in our Materia Medica, errors that have crept in from time to time, and have been reported and handed down from author to author, and have been accepted as facts without any examination. I wish to give you an example of what I mean; an example that will doubtless surprise you very much. Hahnemann's principles are true enough, and it is also true that many of us are guilty of not making correct application of them; but Hahnemann himself was not always true to his principles in the matter of provings and the acceptance and placing on record of symptoms. If everything that Hahnemann has given us is to be regarded as sacred truth simply because it comes from him, we will be obliged to accept a great deal that has been and can be proven to be false, and thereby place ourselves in an unenviable and ridiculous position. As you all know, I have been making some investigation as to the pathogenesis of Carbo vegetabilis, a remedy concerning which I have always entertained doubts as to its reported power. I have made a reproving of that substance upon a somewhat new principle, and I was fortunate enough to secure a number of persons who gave me valuable assistance.

I requested some of these, upon whom I knew I could rely, to note their symptoms for some little time before commencing the proving, if they had any; and to others I gave sugar of milk, leaving them under the impression that they were taking

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a medicine. These persons were all perfectly healthy to all intent and purpose. Sixteen persons, in three weeks time, furnished me with nine hundred and nineteen symptoms, obtained in this way. Afterwards these same persons proved the trituration of Carbo, and furnished me with the symptoms thus obtained. On comparing these two sets of symptoms and taking from the last set all found in the first set, the remainder was a very small collection of symptoms, indeed almost none. Again, Hahnemann advises that the best provings are made by healthy, intelligent, careful and cool observers. I obtained a number of such observers, who had all the attributes that such observers should have. They took the Carbo, first and second triturations, prepared by my friend Whitney, of Boston, under my own observation, and the result was that in many cases there were no symptoms at all. In order to procure a countertest I took the medicine myself, at first a few grains and raising to a drachm and a half. After taking the drachm and a half I became sick; my appetite had gone, there were eructations, burnings, etc. Thinking that the bulk of the medicine was the cause of these symptoms I waited until they all had passed away and then took an equal amount of sugar of milk, and it had a precisely similar effect. From all the observations I was enabled to make I came to the conclusion that the effects of Carbo are very slight, indeed so slight that it may be said to have no medicinal effect whatever. I followed strictly the rules laid down by Hahnemann, but he himself did not follow them in the provings of Carbo. He obtained his symptoms from three provers, all of whom were ardent, conscientious and excellent men. These three furnished to the first edition of Hahnemann's work about six hundred Carbo symptoms, and in the last edition of the *Chronic Diseases*, they had increased the number to about seventeen hundred symptoms. It is not stated what potency was taken, nor the number of doses taken, nor whether they obtained all these symptoms from themselves or received some of them from others. It is possible that they were all obtained just in accordance with Hahnemann's direction; but as he insists upon it that the provers must be directly under the eye of the chief, and as one of these provers lived at St. Petersburg, another a hundred miles from Hahnemann, and the third at such distance that Hahnemann could only see him occasionally, it is a fair inference that the provings were not made under his immediate supervision. Yet he took all these *post hoc* symptoms and recorded them and published them, and called them a proving of Carbo. Suppose I had accepted the nine hundred and nineteen symptoms as produced by Carbo, and recorded them as such; by and by they

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would have gone into the Materia Medica and have been a delusion and a snare to many. It does not follow that because symptoms are *post hoc* they are therefore *propter hoc*.

The detection of errors has not weakened my faith in homœopathy; not at all. But it has weakened it considerably as to Carbo. What matters it, however, if Carbo should be thrown out of the Materia Medica, along with a dozen other remedies of doubtful utility. We have enough and more than enough of thoroughly proven and reliable remedies remaining.

When people begin to observe themselves, and especially young people, they are bound to have symptoms, and if they write these down they will soon have a collection. Now in view of this, too much care cannot be taken in proving, especially when a substance of weak power, or nearly inert, is being proved. On the other hand, when a drug is taken of unmistakable power, there are strong, prompt and well-defined symptoms obtained, about which there can be little or no doubt. There are now, according to Berridge, about eighteen hundred medicines. How few of these are well proven. Four-fifths of them could be thrown out without loss to any one. Because a thing is written, it does not follow that it must remain, nor because it was written by a certain person that it must be true. I claim to be as faithful a follower of Hahnemann as any one can be, but I do not propose to lose my identity.

DR. T. S. VERDI, of Washington, D.C.: I was very much interested in Dr. McManus's case of lumbago, for the reason that I have been a martyr to that atrocious malady myself. I would not wish that any of my friends or enemies should have lumbago as I have had it, but should they be so unfortunate, I should not like to go to them and give them a dose of medicine and ask them to await its action for two or three weeks. Nor when I am on the rack should I like to be so served. My faith in homœopathy and Hahnemann would be greatly diminished did I not know that there was another way.

DR. MCMANUS: I gave you a case of chronic lumbago of five years' standing, which had resisted a great variety of treatment. You are talking about an acute attack of lumbago. These cases are not parallel.

DR. VERDI: Very well. I will give you my own personal experience, and that is that lumbago will get well of itself, especially if you adopt hygienic and regimenal measures, and keep yourself perfectly quiet, as you are generally obliged to do. I have taken a great variety of medicines, in high and low potencies, and have sometimes fancied that they did me good—Rhus tox. 2°, for instance—and I have generally had to wait until na-

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ture allowed me to get better. Again, I have had chronic lumbago, and have crawled out of my bed and gone to my work full of pain and suffering, and I have gotten well of this without taking any medicine. I therefore say that while cures can be, and I believe are, effected by medicines, it does not follow that when a patient gets well he has been *cured* by the medicine he received from a physician.

Again, when we have a patient agonized with pain, it seems to be folly to expect a single dose of medicine to do him any good, and still greater folly to ask him to wait a week or two for a cure, especially when we know that the *vis medicatrix naturæ* would unaided produce a cure in less time. We are all followers of Hahnemann, but we are lectured and lectured, because, forsooth, some of us have ideas in advance of Hahnemann. It is monstrous, in the minds of some gentlemen, for us to hold an opinion of our own, or to have learned anything that Hahnemann did not know years and years ago. If Hahnemann could know that we had pledged ourselves to do nothing in medicine that he did not do, and to know nothing that he did not know, he would be disgusted, and would doubtless regret that he had promulgated his homœopathic doctrines to be a stumbling-block in the way of progress. If we were to take the *Organon* as it is and have no other book, we would be as non-progressive as the Chinese. I do not believe in this doctrine of standing still. If I have a human being suffering and can aid him in any way, by homœopathy, by allopathy, by adjuvants, by morphia, I feel myself bound to do it. I prefer homœopathy to any other method of practice, and I always use it when I can; but I do not feel bound to it, to the exclusion of everything else. When I give a man a dose of morphia, I do not claim to be curing him homœopathically or otherwise; but I am doing the best I can for him according to the best lights I have, and that is my duty. We should remember that we are physicians as well as homœopathists, and the duty of the physician is to heal the sick. Let us look upon each other's ways and measures charitably, and not arrogate to ourselves a superiority because we do not do as others do, nor because we do not follow Hahnemann to the letter.

DR. LEWIS BARNES, Delaware, O.: I have been studying the system of homœopathy as faithfully as I could for thirty years. I began the study of it with a little different training from that which some other persons have enjoyed. I was trained as a lawyer, and learned to look upon testimony as a lawyer does. I have spent considerable time also in investigating the human body as connected with the mind, and the effects produced upon the body by the mind. I may say in brief that the result was

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the acceptance of the homœopathic law, but not a clear understanding of it. I accepted the law, but I did not and could not accept all the so-called provings, which never seemed to be proven to me. The simple fact that a person takes a certain drug, or an attenuation of a certain drug, and then notes down all the sensations and symptoms he experiences for a week or a month or two, and regards all these symptoms as produced by the drug, seems to me to be perfectly preposterous, when I know how many and varied are the symptoms that may be produced in a sensitive person by the simple operation of the mind. It is astonishing to me that any one can mark down all these symptoms and call them the proving of the drug. I can myself, by the simple operation of my mind, produce a pain in my stomach, bowels, back, kidneys or head, and I can do it in one minute, without the agency of any medicine at all, and so can many other persons. When I prove a drug upon others, I first take it myself to see what it can do. How many of the symptoms I note come from the operation of my mind or other causes, and how many from the drug, I cannot always tell; but there are some symptoms I feel pretty sure have been produced by the drug. Thus, if I should take five drops of the tincture of Gelseminum I should be totally blind in less than ten minutes. I confess I cannot produce such an effect by my mind alone, and I am therefore convinced that Gelseminum will produce that effect on me, at least in such a dose.

Again, one person can operate upon the mind of another, without the latter having any knowledge of it. If you will give a particular drug to a sensitive person, and fix your mind to the idea that he must have certain symptoms, he will be very likely to have some of them at least. I know that this is true of some persons at least. I once experimented with what is called mesmerism. I was a believer in phrenology, and I determined to make a test of it by getting a subject into a mesmeric state, and then applying my hands to the localities of the brain, as you would apply your fingers to the strings of a violin, and getting responses according to the localities touched. Well, I tried this plan and I made a discovery. I placed my finger upon a certain organ, and lo, I got the response! I was delighted; but the next day I found that my fingers had been applied to the wrong spot; so I tried it again, and placed my fingers on the right spot, and lo! the response came again, as satisfactorily as the day before. This ended my faith in phrenology.

I am convinced that we are a peculiar kind of instrument, played upon by circumstances, by influences all around us, and by the influence that one person exerts over another. What

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these influences are, where they come from, or how they operate, is beyond our knowledge. Because I find a person has certain sensations while taking a certain drug, even though he may have taken it for weeks or months, I do not consider that there is any evidence that it is the effect of the drug at all. All we can say is that the person has taken a drug, and that he has had such or such a symptom. A great many coincidences of this kind, when the taking of that drug would be followed by the experiencing of that symptom, would be evidence of a strong probability that the two coincidences belonged to each other; and I would not care, in that case, whether the mother tincture or the ten thousandth dilution had been taken. Now, when we turn to our Materia Medica, we find there such a complexity of symptoms laid down as the effects of drugs that it is impossible for any intellect, however gigantic, to compass it. In all the prominent drugs you will find symptoms greatly similar to each other under the head of each, and you will find nearly all the symptoms of disease under any of them. I remember once a professor of Materia Medica in one of our colleges making complaint of his students. He said that when he undertook to correct them in any mistakes they made in assigning a certain symptom to a certain medicine, they would insist that they were right, and the worst of it was, he said, they would take the Materia Medica and prove themselves to be so.

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SECTION IV.

REPORT

OF THE

BUREAU OF OBSTETRICS,

O. B. GAUSE, M.D.,	Philadelphia, Pa.
J. C. SANDERS, M.D.,	Cleveland, O.
MERCY B. JACKSON, M.D.,	Boston, Mass.
J. T. ALLEY, M.D.,	St. Paul, Minn.
S. P. BURDICK, M.D.,	New York.
T. C. BRADFORD, M.D.,	Cincinnati, O.
J. F. COOPER, M.D.,	Allegheny, Pa.
C. W. BREYFOGLE, M.D.,	San Jose, Cal.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

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LII. Uterine Hæmorrhage during Pregnancy and after Delivery at Term, ... J. F. Cooper, M.D.

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L.

UTERINE HÆMORRHAGE AS A COMPLICATION OF GESTATION AND CHILDBIRTH.

By O. B. Gause, M.D. Philadelphia.

Hæmorrhage is an invariable accompaniment of parturition. Parturition is the closing phenomenon in a series of phenomena which attend and make up the physiology of reproduction. It is an interesting fact that the escape of blood from any avenue of the body is an indication of violated function, with the exception of the uterus. The total and continued absence of all sanguineous symptoms in this viscus means either immaturity, disease, senility or pregnancy.

The uterus, except during gestation, is endowed with a low order of vitality; its substance is made up of elements in an embryo state. After puberty, for an average period of about thirty years, the uterus is subject to a periodical endo-hyperæmia, a secondary condition due to a sympathy with a functional act of the ovaries. Primarily the uterus may be said to be without function, except during gestation, and almost exempt from any liability to hæmorrhage, quite as much so as any viscus of the body. Pregnancy modifies all this, transforming in a few days an almost bloodless organ into an exceedingly vascular one. Before pregnancy hæmorrhage is a barely possible condition; after conception it becomes the most probable result of accident.

Pregnancy may therefore be said to predispose to hæmorrhage. The results of flooding during gestation will depend upon whether they occur at a time to arrest the development of the fœtus, or as part of the closing and crowning reproductive act.

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All hæmorrhages before "term" are critical, causing first the death of the fœtus, second, the breaking down of the health of the mother.

All hæmorrhages during labor at term, preceding the expulsion of the child, are critical.

Hæmorrhages after the completion of parturition are normal, and only become critical when too profuse and too protracted.

The ovarian vascularity is greater during the non-gravid state than during pregnancy, the functional activity of these organs being suspended by conception, generally not returning until after the completion of lactation.

The evanescent endo-hyperæmia which is an evidence of as well as the consequence of ovulation, serves to foreshadow the predisposition to hæmorrhage of which we have spoken, and terminates with a mild hæmorrhage known as the "monthly flow."

Immediately upon the occurrence of conception the work of gestation begins, first by an increase of the endo-hyperæmia, accompanied by a permanent afflux of arterial blood to the womb. The arteries are increased in number and size; they freely anastomose within the substance of the uterus and penetrate through to the internal surface, and at the seat of the placenta they penetrate the mucous membrane and enter the substance of the placenta; the ramifications terminate in enlarged capillaries which in turn terminate in veins, and these expand into sinuses, some of which are found in the maternal portion of the placenta. The venous canals are exceedingly abundant throughout the substance of the womb; their coats consist of a single layer which rest upon the muscular substance, and they are destitute of valves.

The first effect of this afflux of blood is upon the womb itself, giving an impulse of development to the embryo elements, which in due course of progression transforms the heretofore anomalous substance into true muscular fibre, possessing the properties of irritability, contractility and retractility. It is to these properties that we are to look for the forces that will control floodings at whatever period they may occur.

Let us bear in mind that the loss of these properties, in part or entirely, is a condition calling for therapeutic action, and

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there is no question better established by abundant experience than this, viz., that we have in our proved drugs a power that will promptly restore the vital properties of the tissues of the body, and especially is this true of the impregnated uterus.

In every case of uterine flooding the ultimate remedy is uterine contraction. The greatest amount of blood ever found in the vascular channels of the womb is there at "term." It is then, too, that we find the vital muscular properties most active. Hence, as a rule, the floodings which occur in connection with legitimate childbirth are at the same time the most profuse and the most promptly controlled.

The contractions which expel the child and after-birth are supplemented by retractility, and these two forces continue in active operation until the growth of nine months is reduced and the womb returns very nearly to its virgin condition.

From the foregoing established facts we may deduce the following practical points:

1st. Flooding is made possible by conception, and may occur at any period of pregnancy, if gestation is disturbed to the extent of interrupting the vascular union of the fœtus and womb.

2d. If the death of the embryo occur, the danger of hæmorrhage will be persistent until the fruit of conception is not only all out of the womb, but until the womb itself has retrograded into its normal unimpregnated condition, involving size of womb, thickness of walls, length of cervix and consistence of tissue.

If involution be arrested, we may look for a recurrence of hæmorrhage at each "monthly period" (menorrhagia), or a chronic tendency to flooding (metrorrhagia).

In a large proportion of the cases of recurrent floodings we shall find there has been an arrest of gestation, or there exists some organic disease of the womb, generally a mucous or interstitial growth.

3d. Uterine hæmorrhage differs in many essential particulars from surgical hæmorrhage, and, therefore, should be treated differently. In the former, the measures most rational and effective are therapeutic and hygienic, while in the latter we resort to the ligature and styptics.

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In rare cases we may have to resort to measures which closely resemble those which are effective in surgical cases, until our therapeutics have time to act, but such measures *do not cure.*

4th. Relatively the hæmorrhage at "term" is critical from its abundance, while that of abortion is critical from its persistence. The floodings at term, except in placenta prævia, are generally due to a species of atony of the uterus that may supervene upon the sudden expulsion of the child and after-birth.

Except in very rare cases of hæmorrhage from the lungs, or wounds of important vessels, the danger to life is most imminent in flooding at term from atony of the womb. The bleeding must be held in check *at once*, or a life will be lost in a few minutes. The engineer who has charge of the locomotive can stop his train unaided if you give him time enough, but if there is danger ahead, and he wants to stop quickly, he must have the help of all the brakes. So the accoucheur who has at his disposal the right homœopathic remedy may control uterine floodings if he has time enough, but there are cases in which he will need the aid of brakes. These we have denominated adjuvants, and that no one need misunderstand the question, or think we place too high a value upon these, or too low a value upon our therapeutics, the bureau will present them in separate papers.

5th. Another point of practical value relates to the constitutional disturbance which so frequently attends gestation and makes it a period of suffering.

It can scarcely have escaped the observation of every thoughtful physician that gestation is very frequently attended by many of the phenomena of disease, although the process itself is a physiological one. It is not enough to say that this is one of the penalties of civilization.

In cities at least the evil is on the increase, and the percentage of cases that terminate in abortion is also on the increase. This ought to arrest our attention, and calls for careful investigation at our hands.

We have said that, relatively, the hæmorrhage of abortion is critical on account of its persistence and the danger of a chronic tendency to floodings either at each monthly "period" or from slight causes at other times.

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Why is this? Measurably because neither the physician nor the patient fully appreciates the gravity of the case.

We ought not to lose sight of the fact that in abortions we have to deal with embryo muscular fibre in which the properties of contractility or retractility are imperfectly developed, hence involution is easily arrested and we have chronic enlargement. The vascular supply is not reduced to its normal quantity by the obliteration of the new vessels and shrinkage of the old.

To accomplish this in cases of arrest of gestation requires as long a time and as careful medication and hygiene as in term labors, but these cases rarely get this, and therefore become chronic maladies.

6th. The critical floodings at "term" which are due to atony of the uterus, generally come after the completion of the "third stage" of the labor, while those which complicate abortion generally precede and accompany the abortion.

The atony here spoken of is quite a different condition from that of the inertia which often supervenes during the expulsive stage of labor. In inertia we have a suspension of uterine contractions, while there is present a good degree of retractile force. Rest, a little stimulus, or the extraction of the child by art, will generally restore the contractions.

As a rule, there is commonly a degree of inertia which attends the close of the second stage of labor. So marked is this, that the delivery of the after-birth is denominated a distinct stage of labor.

Authorities do not agree as to the duties of accoucheurs in the management of this stage.

What are the indications requiring the interference of art, and how long should we wait for nature?

In my judgment, the question turns upon the *presence or absence of flooding*. If flooding occur before the expulsion of the placenta, we should remove the placenta at once by the prompt introduction of the hand into the womb beyond, and thus scoop it out. We shall thus remove the entire placenta, provoke contractions and run no risk of inverting the uterus.

There are some symptoms which foreshadow floodings, which, if carefully regarded, enable the judicious homœopathist to adopt

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an anticipatory treatment and often avert the calamity. The leading symptoms are plethora, vertigo, dyspnœa, frequent rushes of blood to the face and head, with nervousness. These symptoms in the last weeks of gestation demand attention. After the commencement of labor, if the pains begin well, the woman thinks she is going to have a hard pain, when suddenly the contractions subside, right in the midst of what ought to be the most vigorous effort. We should endeavor to find a remedy before the close of labor, lest a state of atony supervene upon the expulsion of the child.

Of all hæmorrhages, that which complicates childbirth at "term" is most amenable to homœopathic therapeutics. Those which complicate gestation present a wider field of study and involve a closer investigation into the predisposing and special causes involved in each individual case. Having mastered these, we shall find in our Materia Medica an abundant armamentarium with which to control the flooding, and also subdue all the adverse agencies which have combined to imperil our patient's life, and thus guard her back to health.

These curative agents will be presented by the bureau. It is not the purpose of this paper to speak of them, but rather to set forth how a physiological function, owing perhaps to the general disturbances which our artificial mode of life entail, is attended by many phenomena of disease, and that we may sometimes, as a culmination of these, or from some special cause, meet with critical hæmorrhages as a complication of gestation or childbirth.

Our treatment of this part of the subject is suggestive rather than comprehensive, in order to bring our remarks within the compass suitable for the ears of the Institute. If we can provoke discussion, and thus garner the best thoughts and experience of the members, we shall be satisfied.

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LI.

TREATMENT OF PUERPERAL HÆMORRHAGE BY OTHER THAN THERAPEUTIC MEASURES.

By J. C. Sanders, M.D., Cleveland, O.

The resources available in the treatment of puerperal hæmorrhage, other than therapeutic, may be considered under two general divisions: *A. Regimenal resources. B. Obstetric resources.*

As the use of these means greatly vary with the gestative, parturient and lying-in states, we will consider their availability in these states respectively and in their order.

1. Available (A) Regimenal and (B) Obstetric resources in hæmorrhage occurring in the gestative state.

(*A*) *Regimenal Resources.*

(*a.*) *Lying Posture.*—This is very important; it cannot well be disregarded; its efficiency, though familiar, is not always made the most of. No woman in the gestative state attacked with hæmorrhage has a right to be or continue on her feet, or even in a sitting position. She should at once be ordered to bed, and in case her loss is not severe, in a comfortable lying posture; but in case severe, on her back, with hips elevated, or her body and shoulders and head correspondingly depressed, with slight lateral variations to relieve tedium, and so long as the loss is urgent by its quantity or duration. The object is twofold: 1st. To equalize the circulation and take off the hydraulic pressure from the uterine vessels; 2d. To give the brain all the blood pos-

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sible with which to maintain the heart's activity and keep it from an arrest of movement and the formation of a clot or clots in its cavities, or in its large outgoing or incoming vessels. I am confident I have saved life again and again by the enforcement of this commonplace suggestion. The pulse may disappear from the wrist and all consciousness from the mind, and yet the heart be kept beating, and so long as its movements can be maintained the patient is safe, as so surely as its movements become arrested she will die. I would here suggest to the junior members of the Institute never to lose sight of this general proposition, or the philosophy and importance of posture as an adjuvant in the treatment of uterine hæmorrhage, whether in the gestative, parturient or lying-in state.

(*b.*) *Cool Temperature of the Room.*—It was always to me a surprising thing, the universal intolerance, on the part of a woman bleeding severely, of a warm or heated atmosphere. While there is nothing short of violence so inductive of hæmorrhage, there is scarcely anything more intolerant, after hæmorrhage has been begun, than an overheated atmosphere. A bleeding woman needs a cool room, cool and pure air to breathe and to feel upon her face, hands and general skin surface. The more serious her loss the cooler and purer she demands the air. I have studied this with great interest and with great surprise. Not air to blow upon her rudely, or so as to chill her, but to be cool and kept cool and fresh around her, and so long as she is suffering loss, and often for hours afterwards. This suggestion disregarded in a critical case might make all the difference between success and disaster. It follows as a corollary from this proposition that her bedding, including that on which she lies and which covers her, shall be chosen so as to be made capable of securing the desired reduced temperature of the general body surface, and that her drink and food shall be also cold.

(*c.*) *Local Uses of Cold Water and Ice.*—These uses are various and greatly serviceable. Cold vaginal injections, or ice as a vaginal suppository; cold applied to the hypogastric region, vulva, or on the surface of the thighs by the hand dipped in cold water, or by cloths wrung out of the same, or by the douche improvised by dashing the water from the tips of the fingers, or by

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pouring it in a small stream from a glass cup or pitcher or pipe of a syringe. In one mode or another here indicated, hæmorrhage may be stayed or checked, if not controlled, until the proper remedy or the proper art can be chosen and put in force, and thus greatly conserve the safety of both health and life.

(*d.*) *A Calm and Cheerful Presence.*—No subjective symptom is so universally exciting and alarming as hæmorrhage, and this excitement and alarm are greatly liable to aggravate the loss and danger. A timid, excited, terror-stricken manner on the part of the medical attendant can hardly escape enhancing the loss, distress and danger. Scarcely in the face of any other symptom, or danger from any other source, is there so great need of a calm and cheerful presence. It appeases excitement, calms agitation, inspires courage and sustains faith. Such a presence is always certain to secure a corresponding cheerfulness on the part of the necessary attendants, an advantage of scarcely less importance to the welfare of the patient. This is a grace distinguishing some men from others, and possessed by them as a natural gift. It may be cultivated, however, and ought to be by those who have it not by nature. I have no doubt that by its commanding confidence life has many times been saved.

(*B.*) *Obstetric Resources.*

These vary with the degree of the advance of gestation. According to the availability of these resources, gestation may be divided into three periods: 1st. From conception until the fourth and a half or the completed five months. 2d. From the latter date until the completed seventh month. 3d. From the completed seventh month until the limit of the gestative cycle. We will consider the limitations of the obstetric resources in these cycles respectively.

1. From conception until the fourth and a half or completed fifth month:

(*a.*) *The Tampon, Vaginal or Cervical.*—Neither is to be used so long as there is any hope of either saving the gestation or controlling the blood loss by therapeutics or regimen.

The vaginal tampon is comparatively a gross and rude appliance, yet in the absence of facilities for tamponing the cervix is

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admissible and invaluable. The cervical tampon is simpler and prompter in use and removal, equally efficient and greatly preferable. But the use of either is limited to one or two alternate conditions: one is an undilatable os and cervix; the other is, though the os and cervix are dilatable—membranes broken or not—the uterus cannot be safely or prudently emptied. This latter alternative condition needs a word of explanation. The os and cervix may become dilatable and yet the womb ride so high in the rim of the pelvis that with the tonicity of the vaginal, perineal and general pelvic structures sometimes found, the finger cannot by any pressure made by the hand against the vulva, however aided by any justified counterpressure upon the lower part of the abdomen, be made so to engage the uterine cavity as to accomplish the delivery, either of the involucrum before the placenta is formed, or of the placenta after the period of its development. Assuming the blood loss to continue, and therapeutics and regimen in the choice we make of them fail us or do not act promptly enough, we are compelled to rely still on the tampon. In this latter condition especially, the cervical tampon should be exclusively adopted. In this specific condition the tampon is to be chosen, rather than by forceps, scoop or any other instrument to attempt the plucking out from the uterine cavity either involucrum, embryo or placenta, singly or as a whole.

(*b.*) *Before Placental Formation, separation of the Involucrum from its Deciduous Connection, when this is practicable.*—For this manipulation the finger is the safest, surest and best instrument. This gently passed within the cervix and cautiously insinuated around the mass can easily and harmlessly break up the construction between the choroid tufts and the deciduous layer, and enable the uterus to be at once emptied. Generally the membranes have been broken and the embryo has escaped, but not always. Very common is it that the sac is intact at delivery.

(*c.*) *After Placental Formation, rupturing the Membranes.*—This can be accomplished by piercing or scratching them through according to the degree of cervical dilatability and accessibility to the finger. This accomplished may furnish such a degree of contraction on the part of the uterus as to enable us to attain

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the desired stay or check of the blood loss until either such a dilatability has been gained as to enable us to grasp the fœtus and secure the delivery of the placenta, or if this is not adjudged necessary, until the natural expulsive forces have had time to rally and of themselves accomplish the delivery.

It may be accepted as an almost universal proposition, that an emptied uterus at this date of gestation will cease its bleeding. The only exceptions are: 1. Where violence has been done to the integrity of its inner wall, factitiously by the patient herself or some accomplice to her fœticidal purpose, or by the obstetrician in the name of obstetric art, and which is never a necessity but always a calamity, scrupulously, yes, religiously, to be avoided. I desire in this connection to record my protest against the popular and common use of instruments within the uterus for purposes of grasping and removal of the involucrum, embryo or placenta, except with such a degree of dilatation or dilatability as will admit of guidance and direction in utero by the finger. 2. Where there is some dyscrasia, a hæmorrhagic bias, which maintains the escape even after the womb is emptied. 3. Where there is a degree of atony which interferes with normal contraction, the organ remaining flabby and pouched, and of course keeping up a more or less constant oozing from the inclosed orifices. These two last-named conditions are very rare, and for their control, as well as for the first-named exceptional condition, our chief reliance will be therapeutics, aided by the regimen before mentioned, as circumstances may demand.

2. *From the Fourth and a Half or completed Fifth Month until the Close of the Seventh Month.*—As an obstetric resource within these dates the tampon must be excluded. The reason is obvious. The uterus has now attained such a size that occupied by the gestative products or emptied under the relaxing influence of blood loss, it would be capable of such a degree of expansion as to admit of an imperilling loss concealed above the occlusion of the tampon. We are therefore limited to

(*a.*) *The Rupture of the Membranes.*—This is a practical and efficient resource, both before and after attained dilatation or dilatability. Of course it condemns the gestation. In this respect

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it is like the tampon, and is never to be resorted to so long as there is a hope or desire to save the gestation.

(*b.*) *Manual or Digital Delivery, supplemented by Instruments, Blunt Hook, Vectis, Small Forceps or Crotchet.*—Such interference must always be predicated on two facts. 1. Its clear necessity, all other measures failing. 2. Attained dilatability, whether by the natural forces or by art, on the part of the os and cervix.

3. *From the completed Seventh Month until the Close of Gestation.*—Within this cycle of time our resources have a somewhat wider range.

They may be considered under three general divisions, according to their availability, when the placenta is in one or another of its three distinctive positions in utero.

(*A.*) When the placenta is situated centrally, or nearly so, upon the cervical zone, overlapping the os, constituting complete placenta prævia.

In this we now assume that to whatever extent the attachment is broken, there is maintained a peripheral connection with the inner cervical plane. The resources are:

(*a.*) *Perforation of the Membranes.*—This is a resource claimed to be universally successful. The perforation is to be made of course through the placental mass, but the placental structure is to be the least possibly broken, the perforation to be made between the cotyledons and by a small orifice. This may be done by the finger, supplemented if necessary by some instrument, properly guarded and guided, so as not to wound either the fœtal or maternal structures. The great desideratum is a slow and gradual emptying of the amniotic sac. A sudden emptying of the sac compromises the success of the measure. This expedient is practicable, whether the os is dilatable or not. But in case this resource fails, as surely it possibly may, we may be glad to avail ourselves of the only exceptional, and possibly practicable, one at this date of gestation, of the

(*b.*) *Cervical tampon*, by which we mean the mechanical occlusion of the os by an adjusted compressed sponge, which can be so secured within the grasp of the os margin as to maintain its position, or can be kept in position by aid of the finger. This

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is specially practicable where there is as yet an undilated or undilatable os, and may stay the tide until dilatability can be secured. The blood, now barred from escape below and shut all round by the circle of attachment, clots and occludes the torn and patulous orifices. So long as this peripheral placental attachment abides, this expedient will be surely successful. The breaking up of this peripheral attachment, thereby permitting blood-flow into the uterine cavity, would of course compel the immediate abandonment of the tampon.

(*c.*) *Completing the Separation of the Placenta.*—This is in imitation of the spontaneous detachment which sometimes occurs, and with safety to the mother, and is advocated by Simpson and others.

Dr. Barnes offers a compromise, and proposes to detach only partially just within the circle of the os, so as to allow retraction of the cervix to some extent. For one I fail to see the force of the proposed compromise. If the cervical zone will retract enough to be aidful, by a partial detachment, why limit our aid by an imaginative circle and not give to the entire cervical zone all the advantage which a complete separation affords, enabling as it would the whole cervical plane to retract?

(*d.*) *Manual Delivery.*—This is only practicable after attained dilatability, whether spontaneously or by art. And right in this connection may be submitted a criterion of choice between the two resources, viz., completing the separation and manual delivery. If the os was patulous enough surely to admit the prompt delivery of the body and head of the child after version had been effected, manual delivery would be preferable. If such a dilatability had been attained as only to admit the hand within the os, but not to admit prompt delivery, though version be accomplished, completion of the placental detachment, in accordance with the suggestion of Simpson, would be our alternative choice.

Manual delivery may be, 1, by version proper, child presenting with head leading, or transversely, or 2, by bringing down the feet, child presenting with breech, or 3, simply by seizing the feet or knees, the feet or knees presenting.

Whichever of these modes is chosen, and this will be determined by the presentation, it should be made promptly efficient to

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the accomplishment of the delivery, securing surely the safety of the mother and of the child, if possible.

B. When the placenta is situated upon the middle and cervical zones, tending, however, much on the os margin, yet leaving the os unoccluded, constituting partial placenta prævia.

The tampon is here unconditionally ruled out as unsafe and impracticable. *Completing the detachment* is also an impracticable expedient.

Our resources become:

(*a.*) *Perforation of the membranes,* if not already broken, with the same care and caution as to minuteness of orifice and slowness of the drainage.

(*b.*) *Manual delivery* in the modes and under the conditions just named and described.

(*c.*) *The Forceps.*—Two clearly defined conditions justify their use: 1. A natural presentation. 2. Such dilatability, both on the part of the os and the passages, as will admit their application, and delivery in case their application can be effected.

(*d.*) *Craniotomy.*—When head presents and manual delivery by version is impossible, or the forceps has failed.

(*C.*) *When the Placenta is situated normally, i. e., within the Upper or Fundal Zone of the Uterus.*—Our resources are the same and limitations the same as in the last-named division. We have individualized these last two divisions for the sake of clearness.

In this discussion, so far as developed, we have assumed that a judicious and prompt emptying of the uterus will close the hæmorrhage.

2. Available (*A*) Regimenal and (*B*) Obstetric resources in hæmorrhage occurring in labor.

We now assume the hæmorrhage as independent of abnormal positions of the placenta in utero, for in such case in labor the resources are the same as in gestation, and have been sufficiently considered. We will consider their applicability in the different stages respectively.

(*A.*) *Regimenal Resources in the First Stage.*—These are virtually the same as were described as applicable in the hæmorrhage

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of gestation. I will add that as they are important in gestation, they are increasingly so after the completed term, and when labor has been declared, for danger in hæmorrhage keeps pace with the increase of development and expansibility of the uterus and the growth of the placenta, and the extension of the area of placental attachment.

(*B.*) *Obstetric Resources in the First Stage.*—In this stage we are limited to one expedient, viz.:

Rupturing the Membranes, if not already accomplished.—This should immediately be done, without any hesitation or reserve, after a reasonable trial of therapeutic means, and the loss is proving in any way serious. This ordinarily may be effected by the nail of the finger. Almost any sharp-pointed instrument, properly protected, may be made to supplement this, in case the membranes are tough or the finger-nail soft and flexible. It should be effected by a small orifice so as to secure a gradual and not a sudden discharge of the amniotic sac. Until attained dilatability, either spontaneously or by enforced dilatation, and which virtually closes the first stage, we are limited to this one resource.

(*A.*) *Regimenal Resources in Second Stage.*—Same as in first stage.

(*B.*) *Obstetric Resources in Second Stage.*—We assume the important fact that attained dilatability, whether spontaneously or by enforced dilatation, virtually limits the first and begins the second stage. From this time forth until its completion in the delivery of the child or children, our resources are, viz.:

(*a.*) Rupture of the membranes, if not already effected in the progress of the first stage.

(*b.*) Manual delivery, as before described.

(*c.*) Forceps, as before limited.

(*d.*) Craniotomy, and if necessary, as is barely possible,

(*e.*) Evisceration.

(*A.*) *Regimenal Resources in Third Stage.*—These are much the same as are applicable in the first and second stages. Too great emphasis cannot be given to their importance.

(*B.*) *Obstetric Resources in Third Stage.*—(*a.*) Friction with applied cold, put into execution in this way: grasping the uterine

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viscus through the abdominal walls, and sweeping it briskly round and over from fundus down and from side to side with the fingers hugging the uterine surface closely, firmly and yet gently, stimulating it thereby to take up and maintain its normal contractions and complete the process of delivery. Friction may be made at the os margin with correspondingly advantageous results.

(*b.*) *Delivery of the Placenta and its Membranes.*—This should immediately be done, however otherwise desirable it may be to have the placenta longer retained. After hæmorrhage assails, the placenta undelivered, whether in utero or in vagina, is always a dangerous presence. Its prompt delivery is our first resource, as well as our bounden, imperative and immediate duty.

(*c.*) *Delivery of all Imprisoned Blood, whether Clotted or Fluid.*—This is scarcely less important or imperative. Blood trickling down over the ledge of the contracted os margin finds a salient point for clotting, and may mass itself here so solidly as to be incapable of dislodgment by the uterine contractive forces, however high their activities, and there spring upon us the only alternative of safety, viz., mechanically to break up and turn out the clot or clots.

The accumulative clotting may begin within the vagina, even down at the vulvar orifice, or in utero upon the converging cervical planes. But from whatever point beginning, and to whatever degree extending, the resource and the duty are the same. Not only the placenta and its membranes shall be removed, but at the same time, or immediately successive thereto, all imprisoned blood, fluid or clotted. The enfeebled activities of the uterine forces should not be permitted to become embarrassed by purely mechanical conditions. I desire clearly to be understood. These two resources are the limitations of obstetric art in the third stage of labor. I protest that the hand shall take possession of or occupy the uterine cavity for any other purpose. The old and popular idea that the hand may enter and occupy, mechanically to occlude the bleeding vessels and to stimulate uterine contractions, cannot too strongly be deprecated or condemned. It is unnecessary, meddlesome and rude interference.

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3. Available (*A*) Regimenal and (*B*) Obstetric resources in hæmorrhages occurring during lying-in.

(*A*) *Regimenal Resources.*

These have here their broadest and most imperative applicability. No obstetrician can ignore their importance. The one designated earlier in the discussion (*c*), viz., *The local use of cold water or ice*, admits of a wider range of use than the adoption of water of the opposite temperature. This enlarged range of use consists in injecting not alone into the vagina and against the os margin, but into the uterine cavity, a current of water either very cold or very warm. Conceding that either temperature may prove serviceable according as we may elect, the primary effect of cold is the secondary effect of heat, which effects are somewhat similar—the former more sudden and transient, the latter slower in development and more permanent. For sudden and urgent cases I unhesitatingly adopt the cold temperature. I am as confident as I am of any fact of my consciousness, that cold water injected into the uterine cavity once saved a person's life intrusted to my care, and in many cases has proved promptly and efficiently aidful, and in no one case have I ever perceived a single untoward symptom or result. If not inconsistent with safety, the simple uses of cold water should, of course, first be tried in the manner described earlier in the discussion; but when these come short of their desired effects, or, in the exigency, we can not grant even the doubt of their failure, we need not hesitate in the adoption of this bolder use of this invaluable resource. This use of cold water has almost an exclusive adaptation to the hæmorrhage which immediately succeeds completed labor, and which is commonly designated post-partum. For that which occurs later in the lying-in, if used at all, in utero or in vagina, water would, doubtless, be more acceptable and serviceable with a high temperature; indeed, with other than a high temperature it would scarcely be admissible, as it would probably not be borne or tolerated by the uterus.

(*B*) *Obstetric Resources.*

However exigent the case, we are limited to one obstetric ex-

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pedient, viz., *Removal of all imprisoned blood, clotted or fluid.* But this resource is restricted to a short period of time subsequent to completed labor; for after the uterus, in the process of involution, has reached the limit of its tonic contraction, no manipulation in utero above the grasp of the os margin would be permissible or justified.

This discussion may hardly be regarded in any way complete without incorporating the suggestion of *blood transfusion* as an alternative expedient in cases of desperate loss, where life becomes despaired of and nearly extinct. Because it is neither a regimenal nor an obstetrical resource, but is purely surgical, and having to do with the effects of hæmorrhage rather than as exerting any influence to control it, I have deferred its discussion until now. As an alternative expedient, it deserves our careful attention. No woman should be permitted to die without the possible hope which its use may furnish. No obstetric paraphernalia can be regarded as complete without the necessary apparatus for blood transfusion, or obstetric art completely cultured without an experimental knowledge of its use.

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LII.

UTERINE HÆMORRHAGE DURING PREGNANCY AND AFTER DELIVERY AT TERM.

By J. F. Cooper, M.D., Allegheny, Pa.

The quantity of blood supplied to the womb of the human female in the condition of pregnancy is necessarily much greater than in the unimpregnated state. The nerve-centres are more readily disturbed and the performance of the different functions of the body much more readily interfered with than in the unimpregnated condition.

This, though a natural condition and inseparable from the period and condition of childbearing, may very fairly be considered as a general predisposing condition from which hæmorrhage may come as the result of an exciting cause.

Quite a list of predisposing causes may be named in connection with the subject chosen, but as the practical part of the subject has been asked for, we will proceed at once to the consideration of its various phases as met with in practice.

Hæmorrhage may occur at any period of gestation, but is of more frequent occurrence as the result of abortion at or before the third month of pregnancy. When an abortion has occurred and is followed by another or others, not the result of design or of accident, as a rule it may be looked for to recur at or about the same period as a previous occurrence of the same character; and when spontaneous it is usually accompanied with or followed by a greater loss of blood than when produced by accidental

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causes. The uterine contractions are less prompt and hæmorrhage is to be looked for as a result. In a portion of the cases that habitually abort vascular engorgement is possibly a predisposing cause of the accident.

When the result of violence the flow is usually in proportion to the extent of the placental surface detached. If the detached surface embraces the vessels that mainly nourish the fœtus, the flow must necessarily be profuse and the danger in proportion to the draught upon the circulation of the patient. If the uterine contractions are prompt and effectual the flow will not in the aggregate be very large.

But as in the early stages of pregnancy the cervix is long and rigid, and the dilatation usually tedious and painful, there is in a large proportion of cases a great deal of blood lost. The flow usually ceases almost entirely with the expulsion of the contents of the womb. If hæmorrhage continues after the womb is supposed to be empty, an examination will usually develop the fact of an organized mass still occupying its cavity or cervix.

The assertion of an attendant that all is right and that everything came away cannot always be relied upon as correct, as a clot is very likely to be mistaken for the object looked for when it is known that an abortion will occur. The practitioner may be mistaken also at times if the clots are merely looked at and not broken up to discover whether or not they are organized matter.

When more or less pain continues and a flow is kept up after an attendant supposes the uterine cavity to be empty, that conclusion may at once be considered incorrect.

Clots coming from the uterine cavity are frequently of the form of that cavity on the outer side, and at times are seen to be excavated within, and unless carefully examined and broken up with the hand to discover their true character the practitioner may arrive at a wrong conclusion.

After the fourth month of pregnancy it is seldom that the womb empties itself by the expulsion of an unbroken mass. The membranes are usually ruptured and the fœtus expelled first, and the placenta and membranes follow. In the first and second months it is common to see the contents of the womb expelled

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entire. This is not always the case, but is frequently so, and the further on in pregnancy the less frequent.

When the membranes are dense and strong and the quantity of amniotic fluid moderate and the child not large, it occasionally happens that the entire mass unbroken is expelled at term. But this is a very rare occurrence, and unless the labor has been rapid and is followed by sudden relaxation of the contracted fibres of the womb, flooding does not occur.

Relaxation of the contracted womb may occur from any cause operating to prevent the equal distribution of nerve power. Intense mental excitement or depression, or an exhausting of muscular power of the patient may be followed by relaxation and consequent hæmorrhage. Relaxing of the contracted womb seldom occurs after abortions in the early stages of pregnancy, but is more frequently sure after rapid labors at term, and may occur while the placenta remains in the womb, or when the womb is entirely empty.

When the womb relaxes with a detached placenta within it, its presence there as a foreign body has a prompting influence for a renewal of contraction and the stopping of hæmorrhage. The physician's attention is seldom withdrawn from the patient while the placenta and membranes are in utero; hence floodings under those circumstances are more promptly met and controlled than when occurring from relaxation after the uterine contents have been expelled.

When relaxation occurs after the womb has been emptied and the patient otherwise cared for, and the attention of the practitioner is withdrawn from her, a very dangerous hæmorrhage may occur in so short a time that the practitioner and attendants may be taken by surprise, and if the physician is so unfortunate as to lose presence of mind life may be taken away in a very few minutes.

The sooner a hæmorrhage from a relaxing of the womb occurs after it has been entirely emptied, the more rapid and dangerous, and the longer it is in coming on the more difficult to correct.

Hæmorrhages may occur at any time after delivery within the

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period of convalescence, where the process of involution is interfered with by causes either moral or physical.

In cases of uterine hæmorrhage dependent upon pregnancy, the causes inducing the flow must necessarily engage the attention of the practitioner, and, if still operating in the case or cases in hand, if possible must be removed or abated.

The patient if not already in bed when the physician is called should be required to get there, and as much as possible to avoid all motion or muscular effort that can be avoided.

Success in the management of such cases can, in a large proportion of them, only be had in that way. All mental excitement or anxiety should if possible be done away with, and the patient be kept perfectly free from apprehension.

When hæmorrhage of a greater or less degree occurs, either with or without pain, a portion of the placenta or membranes may quite naturally be supposed to be in the womb; and if the flow continues free an examination of the parts should be made at once, and, if discovered, the offending matter removed. When it cannot be removed by the hand, and in cases where the placental forceps cannot be depended upon, and the contraction necessary for its removal cannot be brought on by the apparently properly selected homœopathic remedy, the plug or tampon, if properly applied, will assist in arresting the flow, and by its presence as a foreign body prompt contraction sufficient for the expulsion of the offending substance.

In cases of flooding at term, if relaxation is the cause and the flow has been discovered before the patient has lost so much blood as to require being kept perfectly still, simply changing her position will usually be followed by sufficient contraction to clear the womb, close the open vessels and stop the hæmorrhage. This holds good in labor also; and when the patient has been turned upon the side to which the gravid womb has lain during the latter months of pregnancy, the pains are more prompt and the contractions stronger and the labor shorter than in any other position. When contraction is anxiously looked for and a portion of the uterus is found to be firm, complete general contraction may generally be induced by placing the points of the fingers upon the firmest part of the uterine surface, and making

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steady but at the same time not too heavy pressure. The pressure should be continued while there is firmness in the uterine walls.

The number of medicines named in connection with hæmorrhage during pregnancy is quite large, but of the number a few only are brought into extensive use. These we propose to give, with their characteristics as plainly and as well defined as possible.

As hæmorrhages during pregnancy are largely due to accidental causes, and are frequently the result of violent disruption from falls, blows, lifting, reaching or other mechanical causes, the mind of the homœopathist would naturally turn to Arnica. In its pathogenesis we find: Turgescence of the vessels of the womb. Metrorrhagia readily produced. Violent labor pains, with feeble uterine contraction. Hæmorrhages of bright-red blood mixed with clots. A bruised feeling and a feeling of general soreness are symptoms so common in cases of abortion, that not to think of or administer Arnica would be a grievous blunder.

The emergency must dictate the frequency of its repetition. In cases where the flow has been large and labor pains have set in, a dose may properly follow each severe pain; and in cases less urgent a dose each half hour, hour or two hours, or farther apart still, in accordance with the symptoms.

For abortions in the early months of pregnancy, and particularly at or before the third month, next to the last-named medicine, and having many symptoms in common with it, is Sabina. The symptoms calling for its administration are: Metrorrhagia increased by the least motion. Metritis, with hæmorrhages. Discharges of bright-red, partly clotted blood, with severe pain from the sacrum to the pubes. In cases calling for the use of this medicine, and where pruritus of the vulva has been an accompaniment of the pregnancy, this symptom would be one of the distinguishing marks of difference between it and Arnica. In cases calling for the use of Arnica the region over the womb has a feeling as if bruised, and in cases requiring Sabina that region is sensitive to touch or pressure to a much greater degree. When Sabina is indicated and given the pain and hæmorrhage

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cease, in many cases almost immediately, even in cases where the product of conception is at times retained in utero for several days, and often discharged as much as a week after the violent symptoms of the case had ceased.

The next medicine in the order of the frequency of its use in uterine hæmorrhage may be said to be Ipecacuanha. It is oftenest called for in floodings coming on after delivery at the usual time of confinement, but may be at times effective at any period of pregnancy when the flow is rapid and the equilibrium of the circulation completely upset.

The symptoms calling for its use are profuse hæmorrhage of bright-red blood from the womb in clots, with nausea and vomiting, oppressed breathing, blindness and ringing in the ears, coldness of the extremities, paleness of the whole surface, thirst, pulse slender and flickering.

When, after the womb is empty, a relaxed condition is seen and a rapid flow is anticipated, Ipecac. will, in a large proportion of the cases, produce prompt contraction and relieve the patient from impending danger.

In cases of imminent danger the medicine should be frequently repeated, as often as every five minutes, till evidences of contraction are seen, and when pain has come on, a dose after every pain, till the womb has permanently contracted. When pressed too far, however, very severe after-pains are likely to be induced, which the practitioner does not feel at liberty to interfere with, lest relaxation and consequent hæmorrhage set in again. When contraction and the stopping of the free flow has been accomplished, the medicine should not be repeated, nor any other medicine given, without noticing a change of condition or symptoms.

After the medicines named for the hæmorrhages of pregnancy and labor, Caulophyllum, Crocus sativus, Erigeron and Trillium are medicines to which the practitioner's attention can be turned when an indication cannot be found among those first named. Macrotin has also the power of producing uterine contraction in cases where the contractions are feeble and hæmorrhage is a result.

Arsenicum album should always be thought of in cases where there is a continued drain wasting the patient's strength from retention of a portion of the secundines, but is most likely to be

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called for when the discharges indicate by their fetor that decomposition is going on in the womb.

Secale is closely related to the Arsenicum, and is rather indicated by an atonic condition of the womb and for hæmorrhage of a passive character.

Nitric acid also may be called for in long-lasting hæmorrhages of rather a passive character, but accompanied with more suffering than is usual where Secale is indicated.

China is named as an anti-hæmorrhagic remedy, but my experience with it confirms my belief in the thought that it is more applicable to and effective in combating the results of hæmorrhage than in arresting an active hæmorrhage during pregnancy or at term.

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LIII.

THE HOMŒOPATHIC TREATMENT OF POST-PARTUM HÆMORRHAGE.

By Mercy B. Jackson, M.D., Boston, Mass.

We have had many papers before the Institute advocating mechanical means and appliances which cannot be termed homœopathic, and but little said or written advocating pure homœopathic treatment and reliance upon it in the alarming hæmorrhages that sometimes follow parturition.

The object of this paper is to advocate strictly homœopathic treatment in such cases as by far the safest and most expeditious method of arresting hæmorrhages.

In critical cases the symptoms more clearly indicate the remedy than in those less urgent; consequently there is greater certainty of getting the right remedy.

It is claimed by some who advocate mechanical means that internal remedies do not act promptly enough to be trusted in severe cases, while, on the other hand, those who rely wholly on the homœopathic similimum assert that hæmorrhages can be more *quickly* checked by the latter method than by the former.

In all the hæmorrhages which it has been my duty to treat internal remedies have been resorted to, and with unfailing success. The rapidity with which severe ones have been arrested by internal medication has been truly surprising.

Even those from fungus hæmatodes have been suppressed in ten minutes, and not only suppressed for the time being, but prevented from returning afterwards.

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Terrible hæmorrhages from the nose have been wholly arrested in ten minutes by simply giving a homœopathic remedy, without any adjuvants whatever.

In these cases, the cause having been removed, no returns have followed.

By this method the severe sufferings which are produced by plugging the nose or vagina are avoided, as well as the danger of succeeding hæmorrhages when the plugging is removed, and by it the open mouths of the vessels are closed, so that relapses do not occur.

It has been my happiness to observe in *every case* coming under my care, even where there had been previous hæmorrhages after parturition, in the confinements following those in which the hæmorrhages had been cured by internal medication no return of the flooding followed, showing conclusively that the *cause* had been removed as well as the immediate danger.

How much better then is the truly homœopathic treatment than the expedients of so-called rational medicine!

To me it would seem as sensible for a teacher well skilled in the use of modern firearms, to instruct his pupils in that art to take along with them the bow and arrow of the aborigines, that they might use them in case of emergency, as for a skilful homœopathician to teach his students to resort to plugging the vagina in cases of severe hæmorrhage, instead of relying upon the administration of the homœopathic specific.

I would earnestly press upon the minds of our young doctors the absolute power of our law of cure, in all cases where cure is possible; nor can I fail to urge upon their consideration the humanitarian features of the case, where so much suffering can be avoided by leaving the expedients of the old school to be practiced by its members, while we cure our patients by the more beneficent practice of the new.

In illustration of the operation of the law of the similars, I will relate one or two cases, as sufficient to show that post-partum hæmorrhages are the best calculated of any to prove the specific power of internal treatment, inasmuch as they arise from the rupture of numerous bloodvessels.

To my mind the only rational theory on which the arrest of

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a hæmorrhage can be predicated by the use of mechanical means, is by closing the aperture where the blood escapes, and thereby forming a clot or clots, which close the mouths of the blood-vessels.

It will readily be seen that there may be a severe hæmorrhage going on in the uterus while the vagina is plugged so that the blood cannot escape, and so the hæmorrhage may go on to a fatal termination while the outward flow is suppressed by mechanical means. But in the homœopathic method, the mouths of the bloodvessels are closed by the contraction of the fibres, thus removing all danger and saving the precious fluid and the strength of the patient at the same time.

How immensely superior then is the latter method!

Some years since, when attending a lady in her third confinement, who had had so severe a hæmorrhage after the birth of her second child as to endanger her life and debilitate her so much that she was confined to her room for three months after it, I was startled immediately after the removal of the placenta by a terrific hæmorrhage, attended with labor-like pains, that forced at every recurrence a volume of blood that appeared as large as my wrist, flooding the bed and alarming all present. The blood was thick and deep-colored, there were severe bearing-down pains, and cutting pains in the hypogastrium; the latter symptoms were very striking.

I gave Platinum 30th, five or six small pellets in half a tumblerful of water, one spoonful every five minutes for three times, at the end of which time the hæmorrhage was reduced to nearly the ordinary flow and did not return.

The patient made an excellent recovery, and at her next confinement had no hæmorrhage at all.

In another case in which the flow had been excessive at a previous parturition the same course was pursued when the flooding commenced. In this case the patient was cachectic, the extremities cool, the face pale, the pulse small, the mind greatly agitated by fear of death. In this case Secale corn. cured as rapidly as Platina in the other.

I will relate one more case and close this paper.

In a case where hæmorrhage had attended parturition at the

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birth of her last child, the lady expressed apprehension on that account, as she had been brought very low by it.

I assured her that I was prepared for such an event, and she then engaged my services.

Early in the morning I was summoned in great haste as "the woman was flowing terribly." The bed was saturated, and the patient greatly alarmed. On examination of the case the symptoms were, pressure on the genital organs, pressive pains in the abdomen, severe pain in the small of the back, the blood rather pale.

I gave Belladonna 30th in water, one spoonful every five minutes, and before time for the third spoonful the hæmorrhage had ceased.

The pains left with the flow, and did not return for four hours, when they came on naturally and effected the expulsion of the child in about two hours.

The recovery was rapid.

If these simple cases should induce any of our young physicians to rely upon the only law of cure instead of resorting to doubtful expedients, my object in relating them will be gained.

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SECTION V.

REPORT

OF THE

BUREAU OF SURGERY,

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TO THE

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XVII.

EXCISION OF THE CLAVICLE.

By E. C. Franklin, M.D., St. Louis, Mo.

Excision of the clavicle on account of necrosis, or for malignant growths, may be regarded as an established operation of recent date.

Mr. Davie, of Bungay, first excised the inner extremity of the clavicle in a case of dislocation backwards from deformity of the spine, the luxated head pressing upon the œsophagus to such an extent as to endanger life by inanition.

Prof. Gross, of Philadelphia, in 1849, removed the clavicle from a lad of thirteen years of age, on account of necrosis.

Dr. Charles McCreary, of Hartford, Ky., removed the right clavicle from its articulations, in a boy fourteen years of age, for caries; the patient lived many years, with excellent use of the corresponding limb.

Dr. A. J. Wedderburn, of New Orleans, and also Prof. Blackman, of Cincinnati, have each removed this bone with good results. The greatest operation of the kind, however, was performed by Prof. Mott, in 1828, on account of an osteo-sarcoma of great size and hardness, the tumor being conical in shape, and four inches in diameter at its base. The operation required four hours for its performance, and was one of extreme delicacy and difficulty, requiring forty ligatures to control the hæmorrhage. The patient made a good recovery, and by the aid of a mechanical apparatus had good use of his arm, having the ability to move it in any direction.

Dr. C. R. S. Curtis, of Chicago, in 1856, removed the entire

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clavicle, on account of osteo-sarcoma, in a woman twenty years of age. The growth returned at the cicatricial surface in about two months after the resection.

Dr. E. S. Cooper, of California, also performed a very formidable operation for osteo-sarcoma, with successful results.

Although its removal is rarely required in gunshot wounds of the clavicle, in very extensive comminutions the complete resection of the bone may possibly be expedient. It was resorted to twice during the war of the rebellion, but on both occasions with a fatal result. The first case is accredited to a Confederate surgeon, name not given, at the battle of Spottsylvania.

Dr. James C. Palmer, now Surgeon-General, United States Navy, also performed excision of this bone, the wound having been caused by a fragment of shell, which splintered the bone throughout its entire length. The patient survived the operation about two weeks.

O. P. Hayfelder has collected nine cases of complete removal of the clavicle, six of which resulted favorably. Other successful operations have been reported, but I have not been able to find a detailed account of them.

Partial excisions of this bone are more common. Edwin Powell, of the Seventy-second Illinois Volunteers, performed a partial resection of the outer third of the right clavicle, the patient dying a few days afterwards.

Surgeon Hayes, United States Volunteers, reports a case wherein the sternal third of the bone was fractured by a conoidal ball. When admitted into the hospital, the denuded clavicle protruding, it was excised, but death resulted a few days subsequently from pyæmia.

Surgeon I. A. Sidell, United States Volunteers, reports a case of comminuted fracture of the middle third of the left clavicle. The broken ends of the bone overlapped each other, were denuded of periosteum, and bathed in pus. Fears were entertained that by some unlucky movement of the elbow the artery lying beneath might be injured. It was determined to remove about two inches of the middle third with a chain-saw and osteotome, great caution being exercised that the artery received no injury, but in two weeks afterwards this case also terminated unfavorably.

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Dr. Gurdon Buck reports a favorable case of removal by the chain-saw of the outer portion of the clavicle as far as the attachments of the sterno-cleido-mastoid muscle. The integuments above and below were then dissected up and held in apposition by iron wire sutures. Portions of sequestered bone were removed subsequently, during the healing process, from time to time, and the case finally resulted in recovery—"*with no power in the arm, and the wound not fairly closed.*"

Acting Assistant Surgeon J. A. Hall excised two and one-half inches of the middle third of the clavicle, through an incision three inches long. The patient made a good recovery, and was discharged from the service with "disability *total*, but temporary."

Acting Assistant Surgeon A. S. Green removed the acromial half of the bone at the articulation, through a straight incision, and the case terminated favorably. The pension agent reports the patient's disability *total* and permanent.

Assistant Surgeon P. S. Connor, United States Army, reports an interesting case where the fractured ends of the clavicle were rounded off and the loose fragments of bone removed, in consequence of a gunshot injury, the missile comminuting the clavicle and neck of the scapula. Death resulted a few days afterwards.

Assistant Surgeon R. L. Johnson, P. A. C. S., reports a case wherein the sternal third of the right clavicle was fractured and comminuted for the space of about two inches, and the sternal end split to within one-half inch of the articulation. There being an open suppurating wound, the clavicle was disarticulated and removed, together with all spiculæ of bone. The patient survived the operation only a month.

Acting Assistant Surgeon J. R. Merrett removed a sequestrum of the right clavicle, three-fourths of an inch in length, in consequence of a comminuted fracture by a minié ball. The case resulted favorably.

I removed nearly one-half of the left clavicle, in consequence of a gunshot injury. The patient, George W. Spalding, of Company D, Fifty-second Regiment of Illinois Volunteers, aged twenty-three years, was wounded at the battle of Pittsburg Landing, Tennessee, on the sixth day of April, 1862. A round

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ball struck the centre of the right clavicle, shattering it extensively, and then imbedded itself under the bone near the sternal extremity. He was admitted into the United States General Hospital, April 11th. His pulse was 80, and condition good. There was some sloughing at the wound. On the 17th I took out several spiculæ of bone, about one-third of an ounce ball, and some pieces of clothing. On the 22d of April (his treatment meanwhile being frequent applications of calendula water, Catawba wine, nourishing diet, etc.), his general condition being good, pulse 90, tongue clean, I performed the operation of resection of the sternal portion of the clavicle, removing nearly one-half of that bone. The operation occupied about twenty minutes, the patient not losing more than two ounces of blood. A large brass button, which doubtless had been the means of saving the patient from instant death, was extracted at the same time from near the acromion process. The patient's condition was quite promising until about the 28th of April, when the wound was attacked by erysipelas. A copious and offensive discharge of pus continually flowed from the wound. Arsenicum was given internally.

April 30th. Patient had considerable vomiting, tongue much coated, and pulse varying from 100 to 107. For a few days he improved under a stimulating and generous diet and calendula lotions to the wound, but on May 7th he began to feel worse, with considerable fever, etc., coated tongue, pulse ranging from 100 to 120. He complained of oppression about the chest, difficulty of swallowing, headache, etc. There was an excessive discharge of offensive pus from the wound, which otherwise looked well, and the upper portion was almost filled up with healthy granulations. On the next day the patient was taken with vomiting and died suddenly, the pleura having become extensively involved in the inflammatory process.

The extension of the erysipelatous inflammation involving the coverings of the lungs, and the extensive suppuration which followed, doubtless were the cause of death.

Operation.—It is impossible to lay down any definite rules for the resection of this bone, influenced as the operation must be by the condition of the surrounding parts involved in the disease.

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When its removal is demanded in consequence of necrosis, caries, or displacement from injury or disease, the excision is not especially difficult, a single incision along the upper border of the continuity of the bone affording space enough for its detachment and removal. But in those degenerations of the bone and the adjoining structures dependent upon semi-malignant growths, producing morbid deposits which permeate the circumjacent tissues, and blending all together in one chaotic mass of disease, it is a matter of no little difficulty to make this operation.

Great care is to be exercised, in removing the mass, to avoid the great vessels of the neck, the thoracic duct and the phrenic nerve. These are the conditions that make this operation one of the most difficult in surgery, demanding the greatest skill, patience and anatomical knowledge for its successful performance. The surgeon must proceed with the greatest circumspection and caution, using the handle of his scalpel rather than its edge; and in case of hæmorrhage from bleeding vessels, when separating and dissecting away the tissues from their close relation to the tumor, they should be tied as fast as they are divided. The utmost caution must be used in this operation to guard against the entrance of air into the veins that may be lacerated or divided, as this danger is always increased in operations performed on the lower part of the neck, and in such close proximity to the heart. This operation should never be attempted without having capable assistants, and the surgeon being prepared for any emergency that may arise.

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XVIII.

DISEASES AND EXCISIONS OF THE SHOULDER.

By N. Schneider, M.D., Cleveland, O.

The shoulder-joint is the apparatus whereby the humerus is connected to the scapula. This is a diarthrodial joint, and entering into its construction we find bone, articular cartilage, synovial membrane and ligaments, all of which are well protected by muscular tissue. Owing to the variety of tissues which enter into this articulation, and the relation they sustain to the function of the limb, the joint is full of interest to the surgeon when it is the subject of either idiopathic or traumatic disease. All the structures entering into this joint being subject to disease, we may therefore have disease of bone, of articular cartilage, synovial membrane and ligaments, and every one of these may be separately diseased and terminate in resolution; or disease may extend from one structure to the other until the whole joint is involved and becomes a mass of disease, cutting off forever its functions.

Etiology.—The causes of disease of this joint are the same as those operating in diseases of any other similar articulation. Injuries from blows, strains, contusions, over-exercise, sudden suppression of perspiration after violent exercise of the joint, etc.

In order to get a clear idea of the different affections of the joint, we will be obliged to consider them separately, while at the same time we must not forget that all the structures may be diseased *en masse*.

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The first and perhaps the most frequent disease of the shoulder is synovitis, although the shoulder is not as liable to this disease as some other joints, which is due to the fact that it is not so much exposed to traumatic influences.

Synovitis is ushered in generally with stiffness of the joint, especially in the morning, with a feeling of heat and heaviness within. The pain is at first circumscribed, being confined to that part of the membrane which suffered injury, but may rapidly extend over the whole membrane, and become severe, sharp and lancinating, especially upon the slightest movement. The swelling which was present now becomes greater, the skin red, tense, hot and very sensitive to touch. All symptoms are aggravated by the least pressure and motion. The membrane being congested, its functions are increased at first, the natural secretion being poured forth in excess, and we consequently have bulging of the membrane where it meets the least resistance. Should the disease not terminate at this point, the membrane begins to change in structure. It becomes thickened and soft, losing its translucent and glistening appearance, while its inner surface becomes a pyogenic membrane, secreting a sero-purulent fluid; and thus the various structures may become so affected that the whole joint becomes involved in the general disease, entirely destroying its function and rendering operative interference necessary.

Disease of the Articular Cartilage.—This tissue, from its anatomical construction and the fact that its nutrition is carried on by the processes of osmosis, is necessarily of low vitality, and therefore feebly resists disease, which seldom begins in the cartilage, but generally extends to it from some other tissue. Where the synovial membrane has become so diseased that pus invades the joint and is allowed to remain in contact with the articular cartilages, they soon become ulcerated or waste away by maceration. The ulceration is generally in circumscribed spaces, portions of the bone becoming denuded of the cartilage, and thus it becomes exposed to disease. Or the cartilages may become diseased by concussion or contusion of the bone, especially the epiphysal part, the circulation is disturbed, perhaps a slight extravasation of blood may take place in the bone, and

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consequent on inflammation, the bone becomes more vascular, the nutrition of the cartilage is interfered with, and it becomes more or less separated from the bone, and may thus die and pass into ulceration, or it may be absorbed. The symptoms of this latter form of disease are somewhat similar to rheumatism, and may be mistaken for it. The pain becomes very severe, especially at night, so much so as to disturb the sleep of the patient. Starting with pain in the first beginning of sleep is one of the early symptoms of this form of disease. While awake the arm is held motionless by the voluntary muscles, but when sleep supervenes the muscles relax, the arm changes position, and the friction on each other of the inflamed cartilages produces the sudden pain. When the arm is lifted, the articular cartilages are brought together, and severe pain is induced by the least motion, which is true neither of rheumatism nor synovitis. If the disease continues the joint becomes at last generally affected, inflammation extends to all of its structures, pus is extravasated into the joint, the soft structures covering it in become implicated, and if left to itself a sinus will form and the pus be evacuated.

Tuberculous Disease.—This joint is occasionally the seat of tuberculous disease. It is generally found in children of a strumous habit, and is chronic in its course. Its exciting cause is frequently obscure, depending very often upon injuries received months before. Symptoms vary according to the stage of the malady. At first the patient complains of stiffness and wandering pains of a rheumatic character. As it advances the shoulder loses its natural contour by an increased synovial secretion, the muscular covering becomes more or less atrophied, and the mechanism of the joint, at first impaired, gradually is lost. The constitutional symptoms are grave. The pain soon becomes severe, sleep is disturbed, appetite lost, chills and fever set in, attended by copious night-sweats; in fact all the characteristic symptoms of hectic irritation are present. Abscesses form and break, leaving fistulous tracts, which are kept open by carious bone, which may involve both the humerus and glenoid cavity.

In the treatment of acute diseases of joints no one factor is of as much import as the one of rest. It is nature's great restorer and repairer incident to the waste and devastation produced by

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inflammation; and the more excessive the latter, the more this useful agent comes into play. We may here as everywhere learn of nature the method of cure, or at least the indications for it, from her dictates. The disinclination to move, pain on motion, etc., are among these indications. We may of course also find it necessary to assist nature by proper splints, the plaster of Paris cast or kindred appliances in carrying out our method of treatment.

Last, but not least, the homœopathic remedy comes into play, and may often prevent the further spread of the disease and cure it. In acute inflammations, besides the usually prescribed remedies, we would mention *Gelseminum* and *Veratrum viride*. Perhaps not sufficient attention has hitherto been given to these.

The former is indicated by nervous irritation, flushed face, sparkling eyes, contracted pupils, general restlessness and irritability.

The latter remedy is indicated by a train of symptoms somewhat similar to Gels. or Acon., but *a more intense vascular erethism is present.*

It is not in the scope of this paper to discuss the therapeutic treatment of diseases of the joints, as this has already been done fully and ably by former papers, which may be found in the reports of the surgical bureaus of this society, and in the current literature and textbooks of our school.

Excision of the Shoulder.—This operation was first performed by Mr. Bent, of Newcastle (England), about 1771, and since has been repeated many times with general success. It may become necessary to perform this operation for both disease of and injury to the articulation. The former may embrace diseases of the joint proper, non-malignant tumors involving it, etc.

The injuries rendering the operation necessary and expedient are principally compound and comminuted fractures.

Eight hundred and eighty-five cases reported from the late civil war were of the following nature:

Exsection of the upper extremity of the humerus with parts of either clavicle or scapula, or both,	42
Whole head,	14
Head with portions of shaft,	517
Not definitely distinguished,	39
	885

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It would also appear that in 518 primary operations there were 355 recoveries, of 224 intermediary 120 recoveries, of 92 secondary 65 recoveries, and of 51 undetermined 31 recoveries; giving in a total of 885 cases a percentage of 65.2 recoveries and 34.8 deaths. From various other statistics it also appears that as a rule excisions for disease were more successful than those for injury; which may perhaps be explained by the shock which is always present in traumatic cases, and the more severe and extensive lesions which gunshot wounds generally produce. I have myself had three such cases, the first an excision of the head of the humerus; the second, excision of the head with portion of shaft recovered; while the third, excision of head, portion of shaft, together with a portion of glenoid cavity, there being present at the same time extensive lesions of the chest, succumbed.

Methods of Operating.—There are three methods of operating. *First, by a Vertical Incision,* beginning at the clavicle, just outside of the coracoid process, extending about four inches downward, through the fibres of the deltoid muscle, down to the bone, the fibres being drawn aside by retractors, and the arm being rotated outward until the bicipital groove is brought opposite the incision. If the long head of the biceps is not diseased or destroyed, as it generally is if the excision is for disease of the joint, it can be dissected out of its groove and held to one side by the blunt hook. The arm is now carried across the chest, and the humeral head made to press upon the capsule at the point of exposure. The capsule is now divided with a straight strong bistoury, and, by using the arm as a lever on the chest, the head of the bone is thrust out of the wound. It is now sawn off, removing all there is diseased, and no more, with Butcher's saw, the blade of which is reversed, or with a straight saw with movable back. Should the glenoid cavity be diseased, it should be removed with the gouge and bone forceps.

The Second or Flap Method.—The surgeon carries the arm across the chest and transfixes with the knife by entering through the skin and deltoid muscle at the angle of the acromion process, and then, cutting downward and outward, including in the flap nearly the whole of the deltoid. This is raised by an assistant till the capsule is exposed and divided. The head of the bone

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is easily made to protrude from the wound and treated as in the first operation.

I prefer the vertical incision, as it inflicts less injury on the soft parts and thus lessens the danger; the usefulness of the deltoid is also better preserved and the function of the arm retained. The wound should be carefully dressed, being sure to give every advantage for drainage, especially if the operation is made for disease.

If the wound is closed we should always dress it with a drainage-tube or seton, and thus we will avert that fearful complication of extravasation of pus and consequent pyæmia. Until all inflammatory action subsides, and union is established in the wound of the soft parts, the arm should be supported by a sling applied around the hand and wrist.

The sling should not support the elbow, for fear that the end of the bone might be tilted up into the wound. After union is established, then the arm should be supported and carried up to some extent, so that we may secure ligamentous union between the end of the humerus and the glenoid cavity, which restores to a great extent the usefulness of the joint. There is no joint so favorable for excision, and none gives as favorable results. If the attachments of the pectoralis major and latissimus dorsi are preserved, the arm may be almost as useful as before. In fact, there are cases on record where the functions of the joint are perfect.

There are conditions attending ancient luxations, where they cannot be reduced, in which exsection would be justifiable. In the subglenoid dislocation, where the head of the bone rests upon the axillary plexus, giving great inconvenience to the patient if not paralysis of the arm, and thus rendering the arm useless either from pain or want of power, or in the forward or backward luxation, which unreduced will render the arm almost useless, I would certainly recommend exsection of the head of the humerus. Great care and skill should be exercised in the operation, so that the important vessels or nerves which may adhere to the bone by means of plastic exudation may not be injured in the dissection. By this operation an almost useless arm may be rendered comparatively useful.

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XIX.

DISEASES AND INJURIES OF THE ELBOW-JOINT,

INCLUDING ACUTE AND CHRONIC SYNOVITIS, GONORRHŒAL AND SYPHILITIC SYNOVITIS, CARIES, NECROSIS, MINERS' ELBOW, EXCISION, SPRAIN,

And those Affections, the Results of Injuries, in which is left a Stiffened but not Anchylosed Joint, together with Treatment of the same.

BY L. H. WILLARD, M.D., ALLEGHENY, PA.

MR. PRESIDENT: The paper which I am about to present for your consideration is one so comprehensive that I have only selected from the list those affections which are often found among diseases of the elbow-joint. My colleague, Dr. McClelland, presents a paper on the knee and its injuries, and in it gives an account of other affections which involve that joint, and which, to some extent, are common to the elbow. By so doing we shall present to the Institute an almost complete list of the diseases pertaining to these joints, and thus avoid repetition.

I have taken the privilege of consulting the works of Helmuth, Franklin, Gross, Holmes, Bauer, Hood, Buck and many others, sometimes taking from them their different descriptions.

Before entering upon a description of the diseases to which this joint is subject, it is proper to call to mind in a brief manner the anatomy and topography of the articulation.

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On the anterior surface we have muscles attached to the tuberosity of the radius, and another to the coronoid process of the ulna, the biceps and brachial. The artery is found on a line drawn from the outer border of the axillary space, between the folds of the axilla, to a point midway between the condyles of the humerus. The most important part of the joint is that situated posteriorly. In this part we find the triceps inserted into the back part of the upper surface of the olecranon process, this muscle being the direct antagonist of the biceps and brachialis anticus, so that all operations involving it must be regarded as serious. The ulnar nerve, which comes from the inner cord of the brachial plexus, lies on the same line with the artery; to the inner side it diverges near the joint and winds around the bone, passing into the groove between the internal condyle and the olecranon process. For purposes of diagnosis in apparent dislocation or fracture the topography of the joint should be considered. In the extended position of the arm the centre of the olecranon is about an inch underneath the condyle in a vertical direction. When the arm is bent at a right angle the olecranon is in a right line with the condyle, and about an inch and a half below it.

Bearing these processes in mind will aid us in diagnosing the various injuries, sprains, etc.

As this essay, for brevity, should be limited to a practical study of the diseases of the joint, I shall omit the various pathological states, and only give you those necessary to illustrate the diseases spoken of, confessing, at the same time, that a thorough knowledge of the pathological condition of the joint is an essential aid to treatment of the adult; but, as Mr. Hilton has observed, in children the separate and distinct diseases of the articular structure can seldom be recognized with any useful precision during life.

Synovitis—Acute and Chronic.

This affection may be either acute or chronic. It may be caused by direct mechanical injury, undue exposure, violent exercise or disease which has involved the adjoining tissues. It

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is usually confined to one joint. The first change noticed in the pathology of the part is increased vascularity; then, as a natural consequence, increased synovia and some alteration in its healthy composition; then come the products of inflammation effused into the synovial cavity. Should the disease be checked in this state, then by absorption all the material is removed; but should the disease advance, then shreds of synovial epithelium and a variable amount of organizable lymph appear, giving rise to false membranes connected with the joint; and further, on changes occurring within the joint, villous processes are formed, extending, perhaps, over the cartilage, which may still be found beneath them. Then a similar action takes place on the outer side, thus increasing the thickness of the cartilage and consolidation of the capsule. If the process of inflammation still advances, the fluid effused within the joint becomes turbid and pus is formed, which, increasing, involves other structures. The articular cartilages become affected, and the bones participate in the disorganizing process. Then the parts outside the joint undergo similar changes. Abscesses arise, communicating with the joint through the capsule, and make their way to the surface by means of sinuses. The ligaments become thickened or softened so as to be no longer capable of holding together the bones, which may thus become completely or partially dislocated.

Symptoms.—In consequence of causes already mentioned, which may not be noticed at the time, a sensation of lameness or soreness is felt in the joint, which generally escapes professional notice until pain of a considerable amount, increased by motion, ensues, and the physician is summoned. In the joint there is pain at the seat of injury, swelling varying with the amount of effusion and shape of the distended synovial capsule, modified by the degree of resistance offered by the surrounding structures. Fluctuation is sometimes distinct. The effusion at the elbow-joint is most evident at the back of the arm, on each side of the forearm, beneath the extensors. The position in which the patient carries the arm to alleviate the suffering is generally fixed and almost always flexed. Some have supposed that the flexing is due to overdistension of the joint cavity; but, as Holmes remarks, the ease with which a joint may be moved when chlo-

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roform is administered, points rather to undue muscular contraction. The treatment of contracted muscles from joint diseases would, I think, confirm this opinion. Mr. Hilton says that the irritated or inflamed condition of the interior of the joint (say the knee-joint), involving the whole of its articular nerves, excites a corresponding condition of irritation in the same nervous trunks which supply both sets of muscles, extensors and flexors; but that the flexors, by virtue of their superior strength, compel the limb to obey them, and so force the joint into its flexed position. The effects produced by these flexions are always injurious, aggravating the case, and in the event of anchylosis leave the joint in an unfortunate condition.

Prognosis.—In the majority of cases, the joint recovers its normal condition, the inflammation subsides, the effused material is absorbed; but a liability to recurrence is the rule when exposed to exciting causes. In fact, the strength and recovery of the joint will be in proportion to the gravity of the case and to the constitutional causes, hereafter to be described, which may affect the patient.

Acute Articular Abscess.

This affection, as already stated when speaking of synovitis, begins when suppuration ensues, in this instance being a continuation of synovitis. A differential diagnosis may be formed if, in addition to the symptoms described under synovitis, the patient should complain of rigors, and has a high fever, and the tumefaction increases, with a phlegmonous appearance, which extends to the surface, pitting on pressure. In addition to these symptoms there is aggravation of pain, with a typhoid state. The patient soon, from his sufferings, becomes greatly reduced, unless the disease is checked. Should this, unfortunately, not be the case, the pus finally reaches the surface through destruction of the fibrous tissue, and complete disorganization of the joint takes place. In some cases, after the discharge of pus, the articular surfaces of the bones unite, and a stiffened limb is the result. On the other hand, to remove the source of irritation, excision or amputation must be resorted to.

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Chronic Synovitis.

This disease may be the result of acute synovitis, or dependent on constitutional causes, to be described hereafter. When the result of acute synovitis, the joint, after the acute symptoms have subsided, remains large and swollen, sometimes with fluid in its cavity. In this condition it may remain stationary, then get better, only to be aggravated and made worse till, finally, adhesive inflammation takes place and the limb becomes stiff or anchylosed. In other cases the irritation of the membranes gradually subsides; the pain is felt only occasionally; finally, the swelling, to a great extent, passes away and the joint regains its normal strength, but very seldom its normal size, and is very prone to injuries, which may lead to abscess and the train of symptoms and distressing results already described.

Hydrops Articuli.

This affection, not so common with the elbow as other joints, is, as the name implies, water in the joint. No symptoms of inflammation are present, nor pain. The fluid is of a light straw color, and resembles, in many respects, the fluid of ascites or hydrocele. It is said to often follow, but not immediately, an attack of acute synovitis. In persons of a weak, irritable constitution, the limb is somewhat stiff, with little or no pain. It is readily diagnosed, and most surely by the exploring needle. The prognosis is favorable, though relapse often occurs.

Chronic Osteo-Arthritis (new nomenclature, Rheumatic Gout).

This disease is an affection, according to Holmes, palpably constitutional, implicating a multiplicity of joints, either succeeding rheumatic fever or following exposure to the usual exciting causes of rheumatism, or secondly, as a local affection, attributable to overexertion or injury, or arising without any assignable cause, the latter the most infrequent. It is found in all classes, but assumes a more gouty character in those who lead indolent lives. When once the disease is established, its ten-

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dency is to progress slowly but surely until the joint becomes more or less useless or immovable. The pathological state of the joint thus affected consists of a tendency for vegetations to be thrown out into the joint, which interfere with the movements of and enlarge the joint. The symptoms consist of pain, especially at night or when the joint is set in motion after rest. The pain is usually of an aching character, aggravated by atmospheric changes. These symptoms continuing in a modified form and lasting for a long period of years, end by the patient becoming bed-ridden, and consequently entirely helpless.

Gonorrhœal Synovitis (or Gonorrhœal Rheumatism).

Sir Benjamin Brodie first described this disease, which seems to depend upon gonorrhœa for its origin, and generally makes its appearance in connection with a purulent discharge from the urethra. In two cases which came under my observation, the discharge lessened in quantity. When rheumatism manifested itself, one of the patients became affected with enlargement of the ankle-joint; this seemed to last but a few days when the wrist became affected, and so in various joints until the urethral discharge stopped; soon after the affection of the joints ceased. In the other patient the joints are now, even after the lapse of two years, occasionally affected. Neither of these cases had ever had any rheumatic affection previously. Suppuration has never occurred so far as I have observed, but there is a tendency for the synovial membrane to become chronically enlarged. In a few instances the cases are more severe, the cartilages become enlarged, and permanent rigidity is the result.

Syphilitic Synovitis.

This disease modifies the condition of synovial inflammation, and occasionally, Sir Benjamin Brodie says, the synovial membrane in one or more joints assumes a sluggish form of inflammation in the early stages of secondary syphilis, in connection with papular eruptions. It is a rare affection, I think, in the secondary stage, and is more frequently met with, according to my observation, in the tertiary form of this disease, when it affects

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the periosteum. The inflammation is slow in progress; the nightly pains severe.

Caries and Necrosis,

Affecting the elbow-joint, are treated according to general principles. I would refer you to the article on these diseases to be found in the *Transactions* for the year 1873.

Miner's Elbow

Consists of disease of the bursa over the olecranon; but when inflammation attacks the bursa beneath the triceps, it may lead to a serious involvement of the joint. Mr. Barwell says this condition clearly resembles that which is met with in the knee, a synovial bag existing between the triceps and the humerus, which may be a distinct bursa, or, as is commonly the case, a prolongation of the articular synovial membrane. He also remarks that in inflammation of the bursa, when it does not communicate with the joint, there will be no swelling or puffiness between the internal condyle and the olecranon process when the arm is at right angles. The infallible test is that the line of junction between the head of the radius and the humerus is as clear and well-defined as ever. If the inflamed structure communicated with the joint, then those parts would participate in the general swelling. In the simple variety a cure has been effected, in my cases, by withdrawing the fluid from the sac by means of pneumatic aspiration, then binding a firm compress over the bursa for the purpose of exciting adhesion of the walls of the sac, the arm being bandaged from the fingers up. In the more serious variety the treatment of synovitis will have to be considered.

Treatment.

Treatment of Synovitis.—The treatment of an inflamed joint must, for obvious reasons, be by perfect rest; upon this point all authors agree. I would not say simply rest, but rest with no movement whatever. This holds good in all forms of joint disease where there is any tendency to inflammation, and hence will not be re-

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ferred to when treating of the different varieties. This immovable rest of joints should be accomplished by means of splints, which should hold the limb in a good position in case anchylosis occurs. I would recommend that the first attention should be paid to the limb, and if a flexed or bad position be discovered, that it be immediately remedied, giving, if necessary, an anæsthetic. Mr. Hilton says that when once the limbs begin to be flexed the mischief starts which by-and-by cannot be controlled. The occurrence of this flexion, as already described, is owing to muscles, and hence it would seem incumbent on the part of the surgeon, for fear of trouble arising, to resort to a well-padded splint, and put it perfectly to the arm or limb, so that the irritation in the flexor muscles may be allayed. By doing so not only do we avoid complications arising from a malposition of the limb, but give to the vessels a chance to supply healthy nutrition to the limb, and thus assist the curative process. The splints should be long enough not only to control the flexors but also to avoid any lateral misplacement; hence a splint extending a short distance beyond the fingers, for the arm, which should be fixed in a semi-prone position to prevent movement. Should it be impossible to remedy the position, owing to contraction of the muscles, it must be remedied by tenotomy. I would refer to the works of Bauer, Holmes, Sayre and others in which this has been most successful. And in continuation of the opinions herein expressed, still further directions will be found in Dr. McClelland's paper on the knee-joint. In the simple and often-found variety of synovitis, besides a proper splint, the arm may be wrapped in cotton or wool, or in anything that will maintain an even temperature. Should the pain become excessive, a resort to warm fomentations and poultices will be found grateful to the patient. These may be varied by cold applications, such as used by Esmarch, consisting of ice in vulcanized rubber bags applied to the joint, and separated by pieces of lint. Holmes, in the hospital for sick children, sometimes uses suspended over the joint a bottle containing cold water, in which a few threads are partially immersed, with their ends hanging out of the mouth of the bottle; these, by capillary attraction, keep up a constant drip upon a piece of lint covering the inflamed joint. The supply of water may be so regulated by

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the number of threads as just to compensate for the loss by evaporation, and prevent the rag from becoming dry. In the meantime care must be taken that as soon as the pain subsides these cold applications are removed, and resorted to again when the pain returns. The feelings of the patient are to be consulted in regard to either and all applications made to the joint, any of which, not relieving the pain or producing aggravation, are to be immediately dispensed with. The above local treatment is applicable to all forms of synovitis. When the disease has subsided, so far as pain is concerned, there will sometimes remain a considerable quantity of fluid. After all local applications and internal remedies have failed, a resort to pneumatic aspiration will relieve the joint of this excess of fluid, and allow the walls of the synovia to contract. This may be repeated from time to time, giving also the suitable remedy for such affections. I would add to this treatment a carefully applied bandage, with shampooing the joint, and careful passive motion.

Treatment of Acute Abscess.—This trouble may be situated within the joint, being a continuation of synovitis, or it may be situated outside of the synovia. When the latter is the case, the pain is seated in one place. If situated outside, an early incision may prevent much suffering. The incision should be free to allow the pus to escape, otherwise it may find its way into the joint. This same rule holds good when the articular surfaces are affected, which may be known by the character of the pain and the nature of the swelling. An exploring needle, however, will clear all doubts, and when, from any cause, we find that pus has accumulated, our first effort should be to remove it. I cannot speak from experience, but other surgeons have told me they succeed with the pneumatic aspirator. This, it seems to me, is the preferable method; no air could enter and the walls of the abscess would contract. Even if aspiration has to be performed several times, I would give it the preference, provided there were no signs of the joint becoming more seriously affected; should this be the case incisions should be made in such a way as to allow free drainage. In this joint we find the abscess can make its way with the greatest ease upwards and backwards between the humerus and triceps. If the synovial membrane

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gives way in front, the abscess may point at the side of the brachialis anticus, selecting, however, in all cases, if possible, that part where the structures are thinnest, the joint in the meantime being kept perfectly quiet. When disorganization has been effected, the next resort will be amputation or excision.

Treatment of Stiff Joint.—We now consider those affections, the result of synovitis, abrasion, dislocation, sprain or other injury, in which there is left a stiff but not anchylosed joint. It must not be inferred that because we use absolute rest in the first stage of these affections that so long as there is pain we must maintain the same position. To define the exact time when passive motion must be used is extremely difficult. I would say that so soon as the heat has left the joint, and a short interval has elapsed, the movement must be made, and after being made, the arm bathed in warm water or warm fomentation applied. If, on the day following, we have a little more motion with no increase of pain, we are satisfied that it is proper treatment. (I exclude all those cases of contracted tendons; they should be treated by tenotomy.) The treatment should be by passive motion, gradually increased strong friction to the part, with shampooing the muscles and flogging them transversely, and galvanism to individual muscles. In addition to the above I would append Dr. Hood's method as practiced by Dr. Hutton: "In the case of the elbow-joint, the first care of the operator is to discover in what direction movement is most painful. For this purpose the arm and forearm being each firmly grasped, he makes an effort at flexion with the hand carried towards the median line, and again with it carried outwards in the opposite direction. He inquires which movement is most painful, and where the pain is felt. The operator and patient then seat themselves, with the corner of a table between them, and the operator, placing the back of his left hand on the table, receives the elbow-joint in his hand and grasps it firmly, at the same time placing his left thumb firmly on the seat of pain. He then grasps the wrist firmly with his right hand. If the most painful movement was flexion with adduction, he twists the palm of the hand toward the median line and flexes the elbow sharply, at the same time bringing the hand

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across the chest. If flexion with abduction was most painful, the palm is twisted outward, and the forearm carried upwards and outwards. In many cases both these manœuvres would be performed, the thumb pressure being shifted to the spot especially painful in relation to each; and, lastly, complete extension and rotation would be made." Hood, *On Bone-setting*, page 79.

For the medicines useful in diseases of the elbow-joint, I would refer you to the paper of Dr. McClelland, On Diseases and Injuries of the Knee-joint.

EXCISION.—We have already enumerated the various diseases which may, in their course, leave the elbow-joint in such a condition that nothing seems to be left but to perform the operation of excision. It now remains to speak of the result of accidents, such as gunshot wounds, fractures, etc., in which the question of amputation or excision has to be considered. In gunshot wounds where the joint has been penetrated by such missiles as minié balls, the elbow is generally found in such a condition that either amputation or excision must be immediately performed. If a careful examination reveals an extensive laceration of the arteries, nerves and soft parts, amputation is necessary; but if the arteries remain intact, together with the ulnar nerve, and an excision of no more than two inches of the humerus and ulna is required to include the broken bones, the operation of excision may be performed with a good prospect of success. Franklin* says that of 315 cases of excision of the elbow, following gunshot injuries in the battle-field, the results were ascertained in 286 cases. In 16 of these cases amputation became necessary; 62 had a fatal termination, or 21.67 per cent., which gives a mortality a fraction greater than that resulting from amputation, and a mortality far greater than is found in private practice. The exposure consequent upon the battle-field, and the days that sometimes intervene before the operation is performed, all render the mortality excessive. From my experience in hospitals, especially in those of Washington, D. C., it was impossible to make a selection of cases in which the operation could be tested, for many of the patients had been several days without having their

* Franklin's Surgery, vol. i, p. 711.

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wounds dressed, and were exhausted by diarrhœa and want of food. Hence the mortality as published shows a brilliant result, and is another proof of the value of conservative surgery. In private practice when we see our patient early after he has received the injury, we may, by means of a suitable anæsthetic, recognize the necessity of an immediate operation; or we may take advantage of the recuperative powers of our patient and wait until suppuration has defined the limits of the injury.

If such we conclude to do, it then becomes necessary, and I think of vital importance, to remove all loose bone, and pieces which have only periosteal attachments, and saw off the sharp spiculæ. (Some German surgeons, during the Schleswig-Holstein war, recommended that all bones having any periosteal attachment should be left in place, as they assisted in strengthening the new bone. On the other hand it would seem that, acting as foreign bodies, they not only retard the cure but provoke suppuration; and hence, in a great majority of cases, this method would be injurious.) We should also make incisions if necessary in such a manner as to allow free drainage when suppuration begins, and thus avoid the terrible results of confined pus. As an accessory to this treatment a weak solution of carbolic acid should be applied until the fever arises, and then warm flaxseed meal poultices applied to the part, renewed and kept on the joint until the traumatic fever is over. Of course a suitable splint must be applied; this may be made of tin.

When the patient's strength has revived and suppuration has been fully established, the operation may be performed if necessary. The above method may seem ill-advised, but from severe cases treated at the Pittsburg hospital in the manner described with satisfactory results, I am induced to recommend it. I well remember a case, under the care of my friend, Dr. Burgher, at the hospital, in which the olecranon and part of the ulna were involved and where it seemed necessary and imperative to saw off a portion of the ulna. In this case the wound was very large and allowed free exit to the discharges; the arm was put in an angular splint and gradually the exposed bone became covered with healthy granulations, and finally the patient recovered with a useful joint. In those cases where doubt exists in regard to

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the extent of the injury a carefully applied Esmarch bandage, after the patient is under the influence of an anæsthetic, will aid most wonderfully in revealing its extent. In selecting cases for this operation there must be excluded, in addition to those already enumerated, persons advanced in life or suffering from exhausting diarrhœa, and persons who are broken down in health; in fact, all those patients representing evidences of decline. In these cases amputation will be the only hope for restoring strength.

Having in a brief manner considered the diseases and accidents which may render the excision of the elbow necessary, we will now consider the various operations. From the condition in which the joint is diseased and lacerated, with, in many instances, its fistulous openings and lacerations, it seems that the incisions must be varied to suit the condition of the parts, care being taken that the ulnar nerve and artery remain intact. Of the various methods that by the long incision is, I think, the most to be preferred; we have then one wound, free drainage and less liability of the wound adhering to the bone. And the sutures may be composed of the beaded sutures, as used by Gurdon Buck,* of New York, which, by its peculiar arrangement, allows for the consequent swelling. The long incision, practiced by Holmes, is a vertical cut made down to the bones, running parallel with and a little external to the ulnar nerve, about four inches in length, having its centre opposite the tip of the olecranon. This will answer for all ordinary cases. If more room is required, the vertical incision may be crossed by one running outward from its centre. If the head of the radius is found dislocated on the back of the outer condyle it may be removed by the dental engine or bone-nippers. (I prefer the engine, as there is no danger of splintering the bone.) The joint is now to be freely opened by dissecting around the olecranon, care being taken to keep the edge of the knife close against the under side, in order to avoid the ulnar nerve, which is usually hidden from view among a mass of indurated cellular tissue. The end of the humerus should then be cleaned and sawed off by the

* Reparative Surgery, p. 17.

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dental engine, or turned out of the wound and sawed off by the common saw, at a point above the condyles, however slight the disease may be. As remarked before, a section of the humerus two inches above the joint may be taken off if necessary.

After the humerus has been sawed off the ulna and radius should, if possible, be taken off on the same level, then the wound brought together by the beaded suture, and the arm placed in an angular splint having an obtuse angle. Dressings for the wound are various. Some prefer a weak solution of carbolic acid, others Calendula. Franklin uses Staphisagria. I would prefer, when the fever rises, a poultice of flaxseed, not very warm but kept in contact with the wound until the traumatic fever subsides, then, if necessary, resort to those lotions first used, only using them when necessary. With regard to the incisions various methods are in use. In the operation of Gurdon Buck, of New York, two longitudinal incisions are made, the horizontal cut as made in the homœopathic hospital being omitted; the sides are dissected up so as to expose the bone without dividing the attachment of the biceps tendon. Franklin, in his work, p. 754, urges that the flap be made rectangular, wide as the joint, the under longtitudinal incision made just to the radial side of the ulnar nerve, which lies in a groove behind the condyle. He uses warm Staphisagria water as a dressing. Helmuth, in an operation performed by himself (p. 824), made the flap in the shape of a Λ, the apex of which terminated above the olecranon; he then dissected the flap down the triceps, detached and held it aside, and applied the saw in a manner so as to divide the olecranon at its base and the radius at its neck. The condyles of the humerus were thus exposed, the ulnar nerve sought after and put aside from the condyle, the soft parts being well protected; the diseased portion was removed by the saw.

There is, too, the old method of incision made in the shape of the letter H, the lateral incisions being made over the condyles and united by a transverse cut across the olecranon process; the remaining portion of the operation being the same with regard to vessels and nerves. Ollier, Langenbeck and some others advocate, in excision of the elbow-joint, in addition to the operations just described, that care be taken to remove the periosteum from

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the bones in hopes of, and some say with a certain reproduction of bone. In this operation the periosteum is incised with the first cut (it is obvious this must be after the method called the long incision), and separated from the olecranon with a blunt instrument; then the tendon is to be carefully separated from the olecranon, leaving it still attached to the periosteum and surrounding fascia. The rest of the bones are exposed in the same manner, care being taken to preserve the periosteum and tendons in relation with each other and with the fascia. This method, called the subperiosteal, is advocated by its originators for its almost certain reproduction of the bony mass, and, as M. Ollier states, not only the bone but the olecranon, in many cases, and its attachment of the triceps. In other cases the reproduction of bony projections from either side of the humerus give great lateral stability to the joint. These results are certainly very brilliant and satisfactory, but statistics of cases in which the old method had been used also give undoubtedly good results. The method of subperiosteal excision should, it seems to me, be limited to those cases where the destruction of the joint is due to a long-continued disease, such as necrosis or caries, where we almost always find the periosteum to a great extent loosened and easy of removal; also to those cases where it is necessary to cut away large portions of the bones composing the joint. But if the amount of bone to be removed is small, in all probability we would have anchylosis. In recent injuries the greatest difficulty will be experienced in removing the periosteum, and hence the old method should be preferred, for if the periosteum left be ragged and torn it will only become a source of irritation which will be removed by the process of sloughing. So in limiting ourselves in this operation, which is very laborious, we exclude all recent injuries, and those where only the articular ends of the bone are diseased. We resort to this method of M. Ollier and Langenbeck when there has been extensive caries or necrosis.

Reverting again to the amount of bone to be removed, I have stated that about two inches of the humerus and the same of the ulna, including the olecranon, may be removed, and find that the statement is not exaggerated. If the bone is found to be splintered and cracked the splintered portion may be removed, but,

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to give the patient a chance for the limb, a crack extending along the shaft of the bone does not necessitate removal; a sequestrum may form and be thrown off without producing a useless arm. If, however, the bone seems disorganized or disintegrated, the age of the patient will be the guide; if an old person amputation will perhaps be best, but in young, vigorous persons I would wait and resort to measures to remove the dead bone, relying on the chance of reproduction to save the arm. One other matter very important in joints of the lower extremity may be referred to here. The epiphysis of the joint, if sawed off in the elbow, will shorten the arm, but firm union renders this operation still preferable to amputation.

The after-treatment of the joint, in addition to the applications already spoken of, consists in having a splint applied after ten days, or as soon as the irritation subsides; then the curved angular splint is removed and one applied similar to Stromeyer's, in which the arm and forearm are placed. The splint must be joined in the centre, movable by a rachet and pinion. An anæsthetic had better be given so as to make the position secure. Passive motion is begun and carried out according to the danger from osseous anchylosis. If much bone has been removed passive motion need not be used until four weeks have elapsed, but if a small portion only has been excised, then passive motion of a vigorous kind must be used at the end of three weeks. In the most favorable cases, according to those operated upon by Helmuth, Franklin and many others, a very useful joint is gained.

Mr. Syme gives us an example of a case he had the privilege of dissecting which had been operated on nine years previously, the man having acted as guard on a railway, swinging himself from one carriage to another, while the train was in motion, with the injured arm quite as easily and securely as with the other. The ulna was found united to the humerus by ligaments; the end of the radius was polished off and played upon the humerus and ulna, a material something like cartilage being interposed. The ends of the bones of the forearm were locked in by two processes projecting downwards from the humerus, and strong lateral, and still stronger anterior and posterior ligaments also bound them

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to the latter bone. This was one of the fortunate cases, and all are not so favorable; but with a great majority a useful arm results, provided osseous anchylosis does not occur. Where we find there is danger of this occurring, and it must sometimes, the surgeon will be mindful of his duty of keeping the arm in the most favorable position for future usefulness. In regard to the nerve being injured, which has happened, in some cases the use of the arm is destroyed, in others, as related by Syme, the nerve united and no loss of motion or other ill consequences followed. When caries or necrosis takes place after the operation, the treatment recorded in the Transactions of the Institute for the year 1873 will be found useful. I would recommend the use of Esmarch's bandage in this operation; it may be properly classed as a new addition to the armamentarium of the surgeon. I have found it of the greatest use; it allows a clear inspection of the joint and of the relations of the artery, nerve and ligaments, also of the extent of necrosis, caries or injury. In fact, it so reveals the nature of the joint after the incisions have been made, that we must consider it one of the greatest aids offered to the operator. We have used the dental engine in the Pittsburg hospital for the treatment of caries of the tarsus, first having applied the Esmarch bandage. I was assisted in the operation by Drs. McClelland, Burgher, Seip, Childs and King, and Mr. Cooper (my assistant in the surgical ward). Many others were present, and it was pronounced perfectly successful. And so in those cases of caries around the joint, or, in fact, for the removal of any bone *in situ*, it seems to be a valuable help. In excision of the elbow-joint, after the bones have been cleaned and the pieces removed, by means of this instrument the condyles of the humerus may be removed with the bone *in situ*, thus avoiding all the laceration and tearing consequent upon thrusting the end of the bone out of the wound to be sawed off. It exceeds in celerity the chain saw, and requires no one to hold the end of the bone. It does its work in such an efficient manner, that when the operation is completed the clean cut ends of the bones and thin adjacent fascia and vessels are left undisturbed. No opportunity has yet been afforded me to practice it on the

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living, but there is no mechanical difference between the operation on the living and on the cadaver, when Esmarch's bandage is used on the former. I offer it here for your consideration and hope to hear of its good service. It is also valuable in trephining, in boring into the mastoid cells, in exostosis of the auditory canal, and, in fact, in all bony formations which require removal.

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XX.

DISEASES AND EXCISIONS OF THE WRIST-JOINT.

By J. G. Gilchrist, M.D., Detroit, Mich.

The diseases of the wrist that may call for surgical treatment, or may from the preponderance of objective symptoms be properly classed among surgical affections, are not in any sense peculiar to this region, but are found elsewhere as frequently, and perhaps more so. The occurrence of caries, for instance, in the short bones, is more frequently observed than in bones of other forms, and among these there is, perhaps, a greater tendency in the bones of the spinal column and the tarsus, than of the carpus. In the case of ganglions and muscular abnormalities, perhaps the wrist is oftener affected than other localities, but such conditions can scarcely be included in the scope of this paper, as none of them are productive of mischief sufficient to call for excision of the joint. Caries and necrosis, having been fully considered elsewhere in the report of this Bureau, need not be alluded to here.

For these reasons, whilst others might readily be given, it has been deemed best to confine our subject to the consideration of excision of the wrist-joint, and a mere mention made of the diseased conditions calling for the operation.

Perhaps caries, necrosis, should it ever present itself, and perhaps the formation of tumors of bone, are the conditions oftener met with calling for mechanical treatment, and of these caries in by far the majority of cases. Our improved system of therapeutics, and the daily acquisitions we are making in a knowledge

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of the application of our law of cure, will more and more render this operation an exceedingly rare one. While the indications are so different in the case of disease to what they are in one of accident, still it is hoped that we shall be able to find many good and sufficient reasons for adopting the methods in vogue in cases of accident, and thus simplify the consideration of the subject.

Perhaps the skill of the operating surgeon will oftener be called for in cases of injury than disease, and a consideration of the statistics at our command will go far to settle a question of paramount importance, viz.: Should excision be complete or partial? We may go even further: Should it ever be preferred to amputation?

Dismissing, therefore, all consideration of the diseases that may be found in or near the wrist-joint, we will take up for discussion in this paper the subject of *excision of the wrist*, and endeavor to show that in all cases, whether for disease or injury, excision is to be preferred to amputation, and should be *complete*, *i. e.*, including the articulating extremities of the long bones entering into the formation of the joint.

The rule, as laid down by Velpeau, Mott, Erichsen, and others, seems to be that in cases of accident the parts injured only are to be removed; in cases of disease, the whole joint. My experience would lead me to infer that the good record in civil cases, as compared with that met with in military surgery, is due to the fact that excision was complete. However this may be, it is doubtless a matter of great gravity to decide the question between partial and complete removal, when but one or two bones of the carpus, or one of the ends of the arm bones are injured, in a patient otherwise in good health. The first case of which I can find any record, occurs in the practice of Moreau, Sr., in 1794, and can be found at length in Velpeau's *Operative Surgery*, by Mott, vol. ii, p. 788. It was performed on a sewing girl, and recovery with a useful hand was the result. This author, Velpeau, thinks the operation can but seldom be preferred to amputation, as the results are not satisfactory. It is true that up to a recent period great deformity, anchylosis, persistent neuralgia, and want of usefulness in the hand were the rule; but, as shall be shown shortly, recent improvements by

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Lister and others have made the operation one of great value, while still of great difficulty.

Let us first consider the conditions calling for resection. Dr. Richard M. Hodges (*Excision of Joints*, 1861, p. 77) considers an excision *complete* when all the bones of the carpus, and heads of the metacarpals and radius and ulna are removed; it is partial when of less extent. The term excision includes all cases in which any portion of the wrist is excised, whether one bone or more. This is the classification quite generally adopted, and one that will be employed in this paper. In addition to caries and other morbid processes, fracture of the wrist, particularly from gunshot, will often call for resection. One reason for this will be found in the fact that coaptation is almost impossible, particularly when from shot injuries with much splintering, and the deformity resulting, after the best methods of treatment, will render the hand not only useless, but a source of much discomfort and often positive suffering. While this is not always to be avoided by resection, still it increases the chances for preserving a useful member. My experience is worth next to nothing in this direction, but my reading and knowledge of cases in the practice of others leads me to conclude that excision should always be performed when the injury is extensive, involving more than one bone of the carpus, particularly if one or more bones in each row are fractured. In the *Medical and Surgical History of the War*, Part II, Surgical Volume, on page 995, this question is quite extensively argued, the compiler concluding as follows: "The joint is so surrounded by dense ligaments, with layers of superimposed tendons, the whole bound down by the annular ligament, that the resistance to inflammatory swelling is intense, and reaction attended by excessive pain; and unless tension is promptly relieved, the extension of suppuration is great, involving not only the complicated articular surfaces, but the cancellous structure of the bones. Great risk of pyæmic infection then arises, and operative interference becomes necessary, at least to the extent of free incisions into the joints, and extraction of all splinters. How far it may be advisable to attempt to avert these dangers by primary resection, is a question yet undeter-

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mined, but on which the surgical record of the war throws some light."

Nelaton and all military surgeons are strongly of the opinion that it is a matter of great difficulty, and even of danger, to attempt to save the part when extensively fractured. In cases of slight fracture, or when but a single bone is injured, the expectant method seems to have produced good results. From the records furnished in the history of the war, we gather the following statistics (p. 996, *et seq.*):

Cases of fracture of wrist, 1496.
Treated on expectant plan, 716. Deaths, 54.
" by excision 96. " 15.
Percentage of deaths under expectant method, 7.6.
" " " excision 15.6.

The cases treated expectantly were of little urgency, it is inferred, and thus the death-rate is small. In both cases, however, the majority of the deaths were due to pyæmia. Quite a number of the cases included in the list of operations had sustained other injuries, and it is difficult to decide what connection the operation or the injury to the wrist had with the fatal result. The time of the operations is thus given:

Primary, 44 cases, 7 deaths.
Intermediate, 18 " 6 "
Secondary, 14 " 2 "
Undetermined, 5 "
In 8 cases, secondary amputation of forearm.
In 5 " " " " arm.

This table shows that intermediary operations are the least successful; those made primarily or secondarily are to be preferred, the proportions being very nearly the same. However, inasmuch as many of the fatal cases had sustained other injuries, and in other cases it was impossible to determine the cause of death, it will serve our purpose better to consider the results as to deformity and usefulness of the member, as this will be the main question to be considered in determining an operation.

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6 cases. Complete excision. Functions impaired, but useful hands; one died.

90 partial excisions.

4 ulna and radius. Some lateral distortion and stiffness of fingers.

26 radius. 21 had extreme lateral deformity and anchylosis. The end of the ulna projected, and was very sensitive and irritable; 5 died.

19 ulna. 14 had anchylosis and deformity to ulnar side, but less than above; more paralysis and neuralgia; 3 died.

10 ulna and carpals. 2 useful hands; 6 *much* deformity, contraction of fingers and anchylosis; 2 died.

13 carpus. 1 secondary amputation; 3 useful mobile hands; 5 much deformity and anchylosis; 4 died.

11 carpals and heads of metacarpals. 3 secondary amputation; 6 anchylosis; 2 died.

Summary.

68 hands saved. 51 had anchylosis; 5 mobility with deformity; 3 dangling joints; 9 useful limbs.

From the records of the Confederate service, imperfectly kept it appears, we find that there were 13 cases resulted as follows:

11 primary; 1 secondary; 1 undetermined.

All are reported as having recovered, but only one was promised a useful hand.

In both services there were 109 cases, with a mortality of 13.7 per cent.

When we remember the many disadvantages under which army surgeons labor in the field, and the want, at all times, of good care and proper attention of the wounded, and the fact that many of the patients sustained more than one injury, the records as given above are very suggestive and instructive. We have found that primary or secondary operations give the best results as to mortality, and *complete excision* as to mobility and useful limbs. It is true that the method of operation must enter largely into the question of mobility and deformity, and on this point we have little information from this valuable work. We must conclude, however, that deformity is less in proportion to the

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completeness of the excision. From the works of others, and cases from personal knowledge, I conclude that mobility is dependent upon the amount of injury sustained by the tendons. We find, therefore, that cases occurring in civil practice have been much more uniformly successful in both these particulars, owing to the greater deliberation and more favorable surroundings. St. Hilaire, Cooper, Moreau, Velpeau, and indeed all the earlier surgeons, paid little attention to the nature, form, or extent of the incisions made, most of them being a simple rectangular flap on the dorsum of the wrist, which, from the necessary injury to the tendons, was sure to be followed by immobility and digital contractions. Moreau, Sr., however, made two triangular flaps, one on each side of the wrist and forearm, and operated on one bone at a time. M. Dubled (Velpeau, *Oper. Surg.*, vol. ii, p. 786) employed a lateral incision on the inside of the arm (radial), divided the lateral ligament, and by forcibly abducting the hand made the bone protrude. After removal of the radius and carpal bones on that side, he repeated the operation on the ulnar. Both Velpeau and Mott seem to consider this an impossible operation, and merely an unattempted procedure. In the surgery of our late war, the method employed in very many cases seems to have been to make two free lateral incisions, carefully isolate all tendons and large vessels by the use of retractors, draw the parts away from the bone, and use the chain-saw and bone forceps freely.

The operation which is now quite generally adopted is that devised by Mr. Lister. This operation is described in Holmes's *System of Surgery*, vol. v, p. 680; also in the second part of the surgical volume of the *History of the War of the Rebellion*, p. 1014. Those who wish to read the original paper of Prof. Lister will find it in the *London Lancet*, 1865, vol. i, p. 335.

Assuming that we have a case requiring resection, we would proceed as follows, the operation of Mr. Lister being selected, which is transcribed literally from Holmes's work. In accordance with my deliberate convictions, no matter what the extent of disease or injury, if there is reason to prefer resection to amputation, perform a *complete excision*. You then have greater promise of securing a useful hand, and a diminished liability to exten-

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sion of any existing morbid process which might call for a repetition of the operation.

Apply an Esmarch's bandage. "The operation must be performed through two very free lateral incisions, the tendons being carefully separated from the bones and raised, by gradual strokes of the knife, with as little violence as possible. For this purpose an incision is made commencing in front over the second metacarpal bone, internal to the tendon of the extensor secundi internodii pollicis, and running along the back of the carpus, internal to the same tendon, as high as to the base of the styloid process of the radius. The soft parts, including the extensor secundi internodii and the radial artery, being cautiously detached from the bones external to this incision, and the tendons of the radial extensors of the wrist being also severed from their attachments, the external bones of the carpus will be exposed. When this has been done sufficiently, the next step is to sever the trapezium from the other bones with the cutting pliers, in order to facilitate the removal of the latter, which should be done as freely as is found convenient. The operator now turns to the ulnar side of the incision and cleans the carpal and metacarpal bones as much as can be done easily. The ulnar incision is now made. It should be very free, extending from about ten inches above the styloid process down to the middle of the fifth metacarpal bone, and lying near the anterior edge of the ulna. The dorsal line of this incision is then raised along with the tendon of the extensor carpi ulnaris, which should not be isolated from the skin, and should be cut as near its insertion as possible. Then the common extensor tendons should be raised, and the whole of the posterior aspect of the carpus denuded, until the two wounds communicate quite freely together; but the radius is not as yet cleaned. The next step is to clean the anterior aspect of the ulna and carpus, in doing which the pisiform bone and the hooked process of the unciform are severed from the rest of the carpus, the former with the knife, the latter with the cutting pliers. In cleaning the anterior aspect of the carpus, care must be taken not to go so far forward as to endanger the deep palmar arch. Now, the ligaments of the internal carpal bones being sufficiently divided, they are to be removed with blunt

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bone forceps. Next the end of the ulna is made to protrude from the incision, and is sawn off, as low down as is consistent with its condition, but in any case above its radial articulation. The end of the radius is then cleaned sufficiently to allow of its being protruded and removed. If this can be done without disturbing the tendons from their grooves, it is far better. If the level of the section is below the upper part of the cartilaginous facet of the ulna, the remainder of the cartilage must be cut away with the pliers. The operation next extends to the metacarpal bones, which are pushed out from one or the other incisions, and cut off with the pliers, so as to remove all of the cartilage-covered portions. The trapezium bone, which was left in the early stage of the operation, is now carefully dissected out, so as to avoid any injury to the tendon of the flexor carpi radialis or to the radial artery, and the articular surface of the first metacarpal bone is then exposed and removed. Lastly the cartilaginous portion of the pisiform bone is taken away, but the non-articular part is left behind, unless it is diseased, in which case it should be removed. The same remark applies to the hooked process of the unciform."

Thus concludes what our author justly terms "the most tedious and difficult operation in surgery."

Having completed the operation, however, much remains to be done. We have to insure a speedy repair of the injuries to the soft structures and the filling of the gap in the wrist with the provisional material, and insure, if possible, mobility of the fingers and wrist.

The first indication will usually be speedily fulfilled by employing *Calendula* freely. Should the tissues seem to be very much contused, however, it might serve a better purpose to use *Arnica*. In all other respects treat the wound on "general principles."

The second indication, viz., to favor and hasten the production of reparative material in place of the lost joint, is often happily met in the employment of *Calc. phos.*, which should not be given in a lower attenuation than the 6th. Some authors, speaking from experience, suggest *Ruta* in place of *Calc.*, but I have had no experience with it whatever.

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The last indication is met in the practice of passive motion, first of the fingers and lastly of the wrist, as soon as the new material is firm enough. The wrist motions should be those of pronation and supination, as well as flexion and extension.

The treatment pursued in the case of other resections should be put in practice here, of keeping up extension and counter-extension by the use of properly constructed splints. That of Esmarch is the best, and is well shown in a wood-cut, Fig. 736, in the *Medical and Surgical History of the War*, Surgical Volume, part second. The hand is well supported, yet the fingers are allowed great freedom of motion, while the wrist is firmly supported. When the splints are finally removed, after the wrist has attained some degree of firmness, a flexible splint or support will need to be worn for a long time, perhaps a year or more. Should anchylosis seem to be inevitable, it will be necessary to secure a good position of the hand, which undoubtedly is that of easy extension. A not infrequent cause of failure is an arrest of development of reparative material, and a resulting "dangling joint." In such an event, an apparatus known as Heyfelder's will be found very useful. The extensor and flexor tendons having a good attachment in most cases operated upon by Lister's method, the only difficulty in using the hand in dangling joint is the want of a fulcrum in the wrist. This is well supplied in this apparatus, which is well known, and shown in a wood-cut, Fig. 739, on page 1015 of the volume indicated above.

This completes a brief and somewhat imperfect account of resection of the wrist-joint, and is intended to demonstrate the superiority of resection over amputation, and a complete excision over a partial one. The operation has been so rarely performed that data are wanting from which to derive positive conclusions, but such as they are the weight of evidence all seems to point to the truth of these two propositions.

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XXI.

EXCISION OF THE SCAPULA.

By H. F. Biggar, M.D., Cleveland, O.

Complete excision of the scapula for various surgical diseases and as a remedy for malformations and adhesions resulting from fractures and dislocations of the shoulder-joint, is an operation whose history is confined to the present century.

The complete extirpation of a bone performing so important an office in the structure of an intricate joint as does the shoulder-blade, would seem, at first thought, to necessitate serious impairment, if not total destruction of the joint. Yet the history of the cases thus far recorded goes to show that the operation has been followed in a majority of instances by fair use of the arm, and in some cases by a remarkably good and serviceable joint.

In our best surgical authors, under the head of "Excision of the Scapula," are included a great many cases in which the acromion process and that portion of the head of the scapula with its muscular attachments containing the glenoid cavity are left intact. To treat as identical such cases and those in which the bone is disarticulated and removed entire, gives no definite idea of the relative gravity of the two operations. In the one case the articular surface of the head of the os humeri is left intact, and in the other it is exposed and brought into relation with entirely new anatomical structures. When these portions of the bone are left, being held in relation to the os humeri by their ligamentous at-

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tachments, the joint is virtually untouched, and no adhesions will be likely to take place to seriously impair the action of the joint.

When operative interference is required for necrosis or caries of the scapula, unfortunately that portion of the bone so essential to the integrity of the joint is usually the seat of the disease, and these are the cases that imperatively demand complete extirpation.

The first recorded instance of complete removal of the scapula is credited to Cumming, in 1808, followed by Syme, in 1856. Pussy excised the whole of the scapula and the clavicle in 1813, and the patient is said to have been in good health fifteen years afterwards, though nothing is said of the condition of the arm. Erichsen, speaking of the complete excision of the shoulder-blade, leaving the arm untouched, by Jones, Syme, Fergusson and others, says: "The arm so left becomes a useful member, capable of performing all the underhanded movements and of lifting considerable weights."

Dr. Steven Rogers published (*Am. Journal Med. Sci.*, vol. lvi, p. 367) a tabular statement of excisions of the scapula up to that date. His table was extensively copied into journals and medical works of both continents.

A careful review of the table shows that there were only 25 cases of *total* and 31 of partial excision; and in the enumeration of the list of *total* excisions it will be found that, through an error, the same case was twice noted, once under the name of Gaëtani Bey, and again under that of Surrey, and that Cases 10 and 15 of the original table are identical; reducing the entire list of complete extirpations up to that time to 24.

Vast numbers of new cases might now be added to Rogers's list of partial excisions, but we will confine this paper to a description of the more interesting cases of an additional list of 17 cases of complete excision of the scapula. It is not claimed this includes *all* the operations of this class, but, since the operation has gone into medical literature as a legitimate factor of operative surgery, doubtless many excisions have been performed which have escaped the knowledge of the most assiduous gatherers of surgical statistics.

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Of this supplemental list of 17 authentic cases,

No. 1, by Professor W. Pirrie, records (*Prin. and Prac. Surg.*, 3d ed., 1873, p. 812), on the 18th of September, 1856, the removal of the whole of the scapula from a female 70 years of age, followed by slow recovery "and a tolerable use of the arm."

2. An operation performed February 17th, 1857, and reported by M. Soupart in *Ann. de la Soc. Med de Grand.* A successful removal of the scapula for malignant disease, after disarticulation of the shoulder.

3. By M. le Professeur Deroubaix (de Bruxelles). Excision for carcinomatous disease. Successful as to the joint, but fatal recurrence of carcinoma in the lungs.

4. In 1860, Professor B. von Langenbeck exarticulated the humerus for osteosarcoma, in a man aged 23. On recurrence of the disease he extirpated the scapula and excised an inch and a half of the clavicle. The patient survived the operation a year and a half. (*Arch. der Klin. Chir.*, 1862, b. iii, S. 306.)

5. In the *Dublin Med. Press* of November 13th, 1861, is recorded a case of extirpation of the shoulder-blade for necrosis, followed by "a useful arm." Operator's name not given.

6. The *Lancet*, 1865, vol. ii, p. 696, records a case of excision of scapula, head of humerus and part of the clavicle, by J. D. Bird.

* * * * * * *

8. Dr. F. H. Hamilton (*Prin. and Prac. of Surgery*) says he excised the entire scapula in February, 1866, for necrosis resulting from gunshot injury, the patient recovering with a very useful arm.

The same case is mentioned in *New York Med. Journal*, 1869, vol. viii, p. 372. The report of the New York Pathological Society, published in the *Med. and Surg. Reporter*, 1866, vol. xiv, p. 372, says: "Professor Hamilton presented a scapula which had been removed entire from a soldier who had been wounded at Fredericksburg by a shell. Necrosis of the scapula ensued, necessitating its entire removal with the acromion and coracoid processes. The patient has power to use the coraco-brachialis and biceps, also tolerably well the triceps and deltoid.

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He is able to carry the arm without a sling, although attachment of these muscles is simply to cicatricial tissue, there having been no formation of new bone.

* * * * * * *

11. Dr. D. M. Schuppert, in the *New Orleans Journal of Med.*, 1870, gives a case of total excision of the scapula by himself in a woman aged 36, and the "preservation of a useful arm."

We have thus hastily jotted down a synopsis of a portion of these cases, comprising the post Rogers tabulation; but aside from the authentic list of 17, mention is made in the *Medical and Surgical History of the War of the Rebellion*, of "two other cases of total excision of the scapula," tabulated by an anonymous writer in the *New York Med. Journal*, 1869, vol. viii, p. 434.

A nephew of Dr. Twitchell, of Keene, New Hampshire, claims that his uncle, in 1868, removed the scapula, arm and part of the clavicle, his patient recovering from the operation.

In the reports of almost all these cases we discover a lack of concise statement as to results; an important consideration to every practical surgeon.

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XXII.

DISEASES AND INJURIES OF THE KNEE-JOINT, WITH EXCISION.

By J. H. McClelland, M.D., Pittsburg, Pa.

Lesions of the knee-joint claim special attention, as occurring more frequently and being more difficult to cure than those of any other joint of the body.

Within the limits of a paper such as is demanded by this Institute we cannot indulge to any extent in pathological speculations in order to reach nice pathological distinctions, but we may refer to certain ascertained and probable facts in pathology and morbid anatomy which will have a bearing upon the successful treatment of the diseases under discussion.

It is not intended in this paper to cover the whole ground, as I have reason to believe that my colleagues of the bureau will discuss, to a greater or less extent, the same general subject.

My object will be to call your attention in the main to such affections as may fairly be included under the general heads of *Acute and Chronic Inflammation of the Knee-joint*, feeling that this simple classification will embrace all of the more important lesions with which we have to do.

It is no doubt a proper method to classify according to the tissues affected, synovial, cartilaginous, ligamentous and osseous, but we know that many times two or all of these tissues are involved at the same time, and one term is insufficient to describe the whole lesion.

It is admitted that acute cases will merge into chronic, but it

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will be seen as here understood that the affections are quite different.

We have reason to believe, as a rule, acute inflammation is of traumatic origin, and, as a further generalization, it begins at the centre, within the joint, and extends later to the other structures. On the other hand, the chronic or so-called strumous affections begin in the cancellous structures of the bones and extend into the joint, involving the cartilage and synovial membranes.

We will find these observations of practical value, both in diagnosis and treatment.

Acute Inflammation.

Of traumatic origin, as a rule, although at times the result of suppressed perspiration, etc., we have set up within the cavity of the knee-joint an inflammatory action that is always liable to prove serious. From a fall or blow, apparently trivial, a focus of inflammation is established (at times by rupture of bloodvessel) which may prove rapidly destructive to all of the structures of the joint, making us sensible of "how great a matter a little fire kindleth" under favoring circumstances. Now the most common affection thus developed is *synovitis*, manifesting itself soon after the injury, if such be the cause, by an increased secretion of synovia, making the joint puffy, especially around the patella and its ligament, so that the natural depressions disappear and the whole articulation becomes rotund. Later there is pain and local heat, with more or less general fever. These symptoms may subside under favorable circumstances, or the process may go on, inducing a succession of changes, until the whole joint is involved.

If the inflammation is not severely acute there is likely to be thickening of the synovial membrane, even plastic exudations, and as a further result the gelatinous or "pulpy disease" of Brodie. This gives a doughy feel to the tissues about the joint quite different from that of the simple synovial effusion, and also from the hard swelling of osteo-arthritis.

The excess of secretion in the more *sub*acute cases leads to the affection known as *hydrops articuli*.

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If the inflammation runs high and is not quickly subdued, pus will form, *purulent arthritis*, and serious injury is likely to follow. Abscess of the joint is quite likely to supervene in pyæmia and some other diseases.

The inflammatory action is also liable to extend to the *cartilages*, which according to most authorities are never primarily affected. I am inclined for some reasons to venture the opinion that such is not the case; because, first, the cartilages must necessarily receive many injuries, and second, because the absence of vessels and nerves makes an absence of any symptoms by which an inflammation can be recognized until the surrounding tissues are involved. Thus an inflammation might follow an injury and yet make no sign of its presence until the synovial membrane or the bone had been invaded. The latter to all *appearance* would be constituting the primary affection, while in truth it was secondary to the cartilaginous affection.

This too would explain why symptoms of joint disease so often develop only weeks after the injury. Barwell (*On the Joints*, p. 288) is sustained by Green (*Pathology*, pp. 170, 204) in his opinion, that cartilages are subject to inflammation, although the symptoms differ from those manifested in other tissues.

It is well to remember that pressure at the insertion of the ordinary ligaments (at the side of the ligament of the patella) will reveal even slight inflammatory action within the joint.

Inflammation in cartilage usually results in granular degeneration. The *ligaments* of the knee become affected primarily by injury, such as sprains, and secondarily by extension of inflammation from other parts. In these cases extension, which is a relief in all other diseases of the joint, now becomes very painful.

Contractions of the joint, sometimes called extra-articular anchylosis, may result from implication of the ligaments or from the reflex irritation of the muscles, and in time may produce a subluxation backwards.

Anchylosis, fibrous or bony, may occur, although much less likely than in other joints, owing to the interposition of the semilunar cartilages. Indeed this most desirable termination of

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some cases of joint disease is often sought after with much earnestness.

TREATMENT.

Acute inflammation of the knee-joint requires the most prompt and active treatment.

The tendencies are so rapidly destructive that temporizing is not to be tolerated.

Locally.—Rest most absolute, and hot moist applications are demanded.

It is frequently beneficial to add to the hot foment a small quantity of *Arnica*, as the exciting cause is so often traumatic. Care should be taken to procure Arnica made from the *root* as well as the flowers.

The application of ice, so strongly urged by many authorities, may be of service early in the case.

When the joint surfaces become affected, extension and counter-extension, either in bed, or when possible, by an apparatus that permits of exercise, will greatly relieve pain and prevent adhesions.

When the ligaments become involved extension will not be tolerated, and this is indeed diagnostic.

When extension is not sufficient to overcome the effect of muscular contraction, division of the hamstrings, especially the external, is indicated, and should be practiced.

Aspiration should always be practiced when the joint is becoming overdistended by accumulating effusions; much suffering and even destruction may thus be avoided. Although under ordinary circumstances an opening into the joint is to be regarded as a calamity, yet when assured of the presence of pus, its early evacuation is a prime necessity. When this can be effectively done by aspiration, that method should be preferred and speedily practiced, making sure to cleanse the joint by throwing in and withdrawing by the same needle large quantities of warm water, medicated when necessary with Calendula or Carbolic acid. When deemed best to open by the ordinary method, the incision should be abundantly free, and perhaps multiple. As a *rule* excision is *never* indicated in acute inflammation of the knee-joint.

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Internal Treatment.—This is wherein we gain immense advantage over the ordinary practice. Remedies homœopathically applied furnish results in the highest degree gratifying.

Acon.—Rarely indicated, and then by its general symptoms.

Arnica.—Both theoretically and practically useful in many cases exhibiting great tenderness and sore, aching pains. It also appears to induce the absorption of effused fluids.

Bell.—In acute inflammations the most important remedy. The pain, heat, redness and swelling all call for this valuable remedy, and its efficiency is many times attested.

Bry.—For less active inflammations this drug is exceedingly prompt in affording relief. The heat and redness are less marked, and the sensitiveness to touch and motion is not so great as when *Bell.* is indicated. Effusions in the joint call for this remedy.

Merc.—In subacute cases, when there is considerable effusion, with tendency to implication of the bones. Nocturnal exacerbations and many concomitant symptoms may be present.

Hepar.—Indicated when there are suppurative tendencies or when pus has actually formed. With regard to the influence of this drug (or any other) over the suppurative process you will pardon a remark.

We are told by some whose opinions are entitled to respect, that Hepar *low* hastens suppuration, while the same drug *high* retards it. Now I venture as true that drugs act in their medicinal (not poisonous) capacity by exciting the organism to increased effort toward the restoration of its impaired function, taking the best way to accomplish this in each individual case. Hepar, I apprehend, in whatever potency it be given, aids more or less in this effort if it be the homœopathic remedy in the case; otherwise it neither hastens nor retards suppuration. Other remedies that are found useful in these affections are Rhus, Apis, Ruta, etc.

Chronic Inflammation.

This class of joint diseases has been known as *strumous* and *tubercular* affections; also as *white swelling*, and more recently as *osteo-arthritis*.

Late pathologists are quite sure that the so-called scrofulous

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character of this affection, and of the system in general, is more an effect than a cause.

Sayre, in his very excellent and practical work, *On the Joints*, etc., issued January, 1876, p. 191, speaks thus: "You may remember that the authorities in our profession from time immemorial have regarded destructive diseases of the knee-joint, commonly called 'white swelling,' as being essentially of constitutional origin. I shall prove to you that the scrofulous diathesis is simply an accidental accompaniment." The learned author probably forgets to mention that several eminent surgeons and pathologists, notably Bryant (*Surgery*, p. 751) and Holmes (*Surgery*, p. 464), after thorough investigation arrived at the same conclusion, and so announced it many years ago. Without entering into a discussion of this question, it is enough to know that in these cases we have a very intractable inflammation beginning in the cancellous structure of the bone (or beneath the cartilage, Sayre), with a tendency to invade the joint. The progress is usually slow, but when the joint is reached the articular cartilages are loosened and perhaps cast off, the synovial membranes become the seat of inflammation, caries may occur, and the whole structure be involved in ruin. Or by a slower process subluxation of the joint or anchylosis may supervene.

It is very easy to recognize this affection even early. There is dull pain, which is increased by firm pressure brought to bear upon the articular ends of the bones. There is local increase of temperature, with exacerbations. Soon the head of the bone becomes enlarged, and continues as a hard swelling, quite different from that exhibited in synovitis or "pulpy disease" of the joint. Where the case progresses to an unfavorable termination, the swelling, pain and tenderness increases, and finally the usual symptoms of caries and suppurative arthritis are ushered in.

Be it remembered that many cases of this affection remain at about a standstill for months and even years.

TREATMENT.

Locally, rest. This may be accomplished, when there is also necessity for confinement, by the usual weight and pulley, as for

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fracture of the thigh, further giving support by suitable splints or junk-bags. This also secures extension and counter-extension, which is an important point in the treatment of these cases. If the case is less acute, a splint or extension apparatus, making extension by ratchet and key, will be much better, as allowing exercise.

Pressure by bandages, etc., is also valuable when well borne, nor should daily frictions or massage be omitted. If there is much effusion the aspirator will prove useful.

Excision.—And now comes the important question as to excision, which, however, cannot at this time be considered at length.

It is admitted by all that in the cases in which this operation is justifiable, amputation is the safer operation. It is also pretty generally conceded that where bony anchylosis can be secured, this operation is rarely or never to be practiced. The most competent authorities have reached the following conclusions in regard to this operation.

As a rule it is never to be practiced in non-suppurative cases, in extensive gunshot injuries, in persons over forty (the age of pubescence being the most favorable), in very young children and in persons suffering with any marked constitutional disorder.

When, however, there is suppuration in the joint, which has denuded the bone surfaces, and where anchylosis is impossible, and other contraindicating conditions absent, the operation is proper and should be performed.

It is well to bear in mind the long period of confinement that must ensue after the operation, the possibility of failure and subsequent amputation, and withal that at best but a straight, stiff and shortened limb is obtained.

The Operation.—The operation is not difficult. After applying the Esmarch bandage, an incision is to be made from condyle to condyle, over or rather below the joint, through the ligament of the patella. The leg is flexed, and the end of the femur thrust out and sawed off, care being exercised not to remove the whole of the epiphysis. The head of the tibia is then treated in the same way, the same caution being observed.

It gives me pleasure to refer in this connection to an entirely new and valuable method of removing the diseased bone, namely

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by the dental engine. This method was first adopted by some of the surgeons of the Homœopathic Hospital, Pittsburg, the credit being principally due my colleague, Dr. Willard, who will probably explain it fully in his paper.

After the tissues have been thoroughly cleansed the wound is to be closed; and now comes the important period of the treatment. The object sought is to secure most absolute immobility, and many means have been devised for this purpose. Wiring of the bone (Buck) is an excellent means, and should be practiced in most cases. Heron's, Watson's, Sayres', Salter's, Gooch's and many other forms of splint might be mentioned. The object is to keep the bones in apposition, the leg in straight position, and secure easy access to the wound. Any good form of swinging splint is to be preferred. Six weeks at least should elapse before the limb is disturbed, and then only with care. Nor should the immobility be disturbed until union has certainly occurred, which may take many months.

Internal Treatment.—However intractable we must admit this disease to be, it is also gratifying to note the success that attends purely homœopathic (which does not preclude proper local) treatment.

The remedies which have proved most useful in the hands of many of my colleagues, as well as my own, are in the earlier stages: Bry., Rhus, Merc., Mezereum and Manganum. Later, Lyc., Calc. ost., Calc. phos. and Calc. jod., Sulph., Silicia and Fluoric acid. This of course does not complete the list of excellent remedies. Time must be given for the action of these remedies. The potencies I have found most useful have been the medium and higher. The thirtieth trituration of Lyc., the minerals and the metals have always given me the best success.

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APPENDIX.

DISCUSSION.

SECTIONAL MEETING OF THE BUREAU OF SURGERY.

DR. R. B. RUSH, of Salem, O., was requested to act as chairman of the meeting.

DR. L. H. WILLARD, then said: The subject under discussion this afternoon is *Exostosis*, and we desire to call your attention to a case brought here by Dr. Ormes, which has already been presented for the consideration of the surgical bureau.

DR. C. ORMES being called upon described the case as follows: The patient was about sixteen years of age when he was first brought before the Society of Northwestern Pennsylvania, three years ago. Dr. Gilchrist being present examined the case and pronounced it one of exostosis of the lower third of the femur. After some discussion, and consultation with the friends, the patient was etherized, and an incision made, five inches long, which covered nearly the whole length of the diseased bone; a soft, spongy growth was discovered, about half of which was removed, it being deemed inexpedient to remove the remainder on account of the weakness of the patient, and because of the danger which must result to the shaft of the bone. The patient being put upon the indicated remedy, rallied and the wound healed very well. It was hoped that the remainder of the diseased bone would be absorbed so that its removal would be unnecessary, but at the end of two months the remaining portion of dead bone was removed. The patient again rallied, and his general health became completely restored. I had him under treatment after the operation.

DR. WILLARD asked if this exostosis communicated with the medullary canal, to which Dr. Ormes replied that it did not, although tending towards it, the upper portion of the bone being of a more spongy nature.

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DR. C. H. VON TAGEN, of Chicago: Exostosis is a surgical disease that I have had some experience with, and in which I take great interest. I am interested in all bone diseases, have had a number of cases, and desire to call attention to a case that I had two years since at Cleveland. This case was very remarkable on account of the number of exostoses, there being five or six situated on the humerus, extending from the shoulder down the shaft of the bone, and also seven or eight on the femur of the same side, commencing at the trochanter and extending downward; these exostoses varied from the size of a cherry-stone to that of a large walnut. I removed them all. The largest was on the femur, and in each one I examined carefully to see if the exostosis extended into the cancellated texture or deep portion of the bone, as far as the medullary structure. It did not, nor have I ever seen one extend so deeply.

In this case the disease covered considerable space; but perhaps in the case before us it may have been a different form of exostosis, as it is described as of a soft variety. In a certain case operated on last winter the exostosis was located at the upper posterior third of the tibia, near the popliteal space, near the joint; the upper portion projecting beyond the attachment of the joint, interfered with its motion and in time would have produced anchylosis. The incision was downwards, and all the excrescent bone was removed; it was as large as a good-sized pear, and had a very dense neck. In this case, though of nine years' development, there were no signs of an extension to the medullary structure. I have used homœopathic remedies as a preventive of their return in all cases after the removal of exostoses, and have found that *Calcarea phos.* is an excellent remedy. There are cases reported as having been cured by its use, but I believe it will only cure in the incipient stage, and not after the disease has developed to any extent. In the present case if the medullary structure was involved it would illustrate an important *physiological* point. I have, however, had twenty or twenty-five cases of exostosis, and have never noticed any such implication.

DR. BIGGAR: This is a case of great importance and should be thoroughly investigated, and if possible it should be determined whether or not it is amenable to internal treatment. This is evidently a case of diseased bone, but its real character might be in dispute. As to whether you would regard it first as an enchondroma and subsequently as an exostosis, depends altogether upon the history of the case and upon the microscopic examination of the cells. I think it is a species of enchondroma afterwards becoming exostosis and multiple in character, for there seems to be nodes felt in passing the hand over the bone, or unequal sur-

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faces, which leads one to that opinion. If this is correct, then there is a more formidable disease to combat than if it were simply exostosis.

DR. RUSH asked if Dr. Biggar saw the case.

DR. BIGGAR. I saw the case and am giving my opinion as to the diagnosis. I do not care as to whether it is scrofulous, strumous or syphilitic; the object now is to determine the real condition and then to treat it. I should, as a surgeon, think an operation absolutely necessary in order to remove the diseased portions of the bone. I saw Dr. Gilchrist, and think the case was admirably treated after the operation to hinder the growth from returning. He did not for some unforeseen reason remove all the diseased bone. In some cases there is a redevelopment, and here we find a case of redevelopment of a malignant disease. I should, in the first place, had I had the care of the case, have insisted on an operation; but there are cases where remedies can be used before a resort is had to the knife. I would like to see a combined effort of the physicians and surgeons present to study this disease, for if it can be cured by remedies it will redound to the credit of homœopathy. I do not know what remedies the patient has had, and as we are not asked especially regarding treatment I will not enumerate the remedies I should give in a like case.

DR. BIGGAR was requested to give his remedies, and resumed: The remedies which I would select in this case would depend on two things. I would first decide as to whether there was present an excess of phosphate or of carbonate of lime; this can only be determined microscopically, and then the prescription can be more accurate. If lime is indicated give either Calc. carb. or Calc. phos. Hygienic measures should be thoroughly attended to, and a judicious diet, not stimulating, but adapted to the diseased condition, consisting of such food as milk, cracked wheat and meat, administered. At present I should advise no application but trust to the use of remedies.

DR. N. SCHNEIDER, of Cleveland: It places a man in a difficult position to ask him for his diagnosis in such a case. The history of the case would influence my diagnosis very much. If I understand correctly, when this man was three years old his father discovered this disease, not from any pain or subjective symptoms but simply by manipulating the limb; he found that a portion of the shaft of the bone was larger than it ought to be. The condition thus continued painless for years, until at last the child's health began to break down. Now, was this depreciation of the child's health due to the local trouble, or to a general constitutional dyscrasia, and was the local trouble due to a constitutional dyscrasia?

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Now, I cannot agree with Dr. Biggar, regarding its malignancy; I consider it to be a case of exostosis and non-malignant. I think it should be treated according to the existing symptoms. There are similar conditions to those found in rachitis. In the first place there was improper assimilation; the child, no doubt, had the right nourishment, but could not get the benefit of it.

Now, if the bone at that time could have been examined it would have been found soft and pliable to some extent. There was a diseased condition similar to that in rachitis, trouble with the bone-cells and in the formation of bone; the periosteum became implicated and an excessive amount of nutrition was carried on thereabouts, plastic exudation was thrown out which did not go into complete bone-formation, but remained in a semi-organized condition. Cutting down upon it you find material neither muscle nor periosteum, but resembling bone; this material is not firm, it has not become complete bone, but has been arrested in its development. This condition may continue for years, and become more troublesome than if it were a case of rachitis.

The treatment should be constitutional; the case should not at the same time be meddled with, so far as operative surgery is concerned. The remedy should be carefully selected, according to the symptoms, which are, however, very few in number. Select the remedy according to the pathological condition. I think of two or three remedies as useful to the present condition, among them Lycopodium, the remedy the patient has been taking. This may be the remedy that has done the patient good.

DR. MCCLELLAND: My own opinion without having consulted with anybody is, that it has been a species of exostosis; that is, there was an excessive formation of bone. The tumor is exceedingly hard and dense, as has been described. It is not true bone, but is bonelike. I would call it an osteoid tumor, which simply means exostosis. It is not soft enough to be called enchondroma.

There has been considerable difference of opinion expressed here in reference to the matter. We may differ a little regarding the pathology of our cases, but homœopathists, as a rule, agree in the treatment of any given case. Both gentlemen agree that constitutional treatment is what we need, and I agree with them both as to the remedies. I would mention *Lycopodium*, *Sulphur*, and the different preparations of *Iodine*, with *Silicea*, as the class of remedies to be used, and if Lycopodium is helping him, I would continue it for a time.

DR. WILLARD: The treatment should for a time be entirely constitutional; but if the boy's health improves, and if that bony formation still remains and does not shift, but continues in its

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present form I should regard the lumps that were formed there as sarcoma.

I should think they were produced by the operation. The doctor says only a portion of the bone was removed. I would like to ask if the cuts were irregular or smooth?

DR. ORMES: They were smooth, I think.

DR. WILLARD: I think the cause may be that a certain portion was not removed on the same plane with the centre, and there would be a difference between that and the middle portion, and hence we find the irregular surface. I do not think that the whole shaft has become involved.

DR. ORMES: I think it has not.

DR. BIGGAR: I should say about two-thirds or thereabouts.

DR. WILLARD: Constitutional remedies should be tried. If his health continues good, I should make another operation, cutting down upon and deciding if it be really exostosis. If the medullary surroundings had been attacked, disastrous results would have followed.

DR. ORMES: I think Dr. Gilchrist in his operation got so near the medullary canal that the tissue remaining over it was very soft and spongy, and it crushed beneath the finger. He removed a great deal, but dare go no farther for fear of exposing the canal entirely.

DR. WILLARD: I think that I would reconsider the question of operation, and would rely thoroughly upon homœopathic remedies, giving preference to the different preparations of lime. After Lycopodium has been thoroughly tried, I would try preparations of lime, selecting, of course, according to the symptoms presented.

DR. ORMES: There seems to be an improvement now. Lime was given in the spring.

DR. MCCLELLAND: It is a very important case.

DR. BIGGAR: I said we did not know what the patient had been taking.

We learn that Lycopodium has been given. When a patient is doing well, continue the remedy if you conscientiously think it is doing good. If this patient is improving with Lycopodium, it would be nonsense to change to another remedy as a matter of experiment.

I don't seem to know what an osteoid is. It is true that it resembles an exostosis, but it is altogether different in shape. It is elongated; it is like the spine of the bone raised.

This is neither a spine nor an elongation; it is an unequal uprising or bulging out of the bone; consequently I should not call it an osteoid sarcoma. I could not call it a fibroid or cystic

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tumor, because in that case it would certainly be more marked. There may be a slow malignancy which is not virulent; and if it is an enchondroma, as I said, it had the evidence of irregularity, and the appearance that it has been spongy, as the doctor says that it has been, and pathologists would term it malignant.

DR. HALL, of Chicago: As I did not see this case, I will not speak regarding it, but wish to say a word in reference to exostosis, confirming what has been said here. My friend, Dr. Biggar, speaks of the diseases involving the osseous tissue, *i. e.*, rachitis, osteoid sarcoma and those forms of bone disease coming on in after-life.

I believe that many times the osseous structure becomes diseased from some mechanical injury more frequently than from a scorbutic habit. This scorbutic or strumous diathesis that some children have is considered to be the reason why some children have rachitis and others suffer under an enlargement of bone. My rule usually in such cases is not to interfere surgically until remedies have been tried, unless the morbid growth is in such proximity to a joint as to threaten to interfere with locomotion, or unless there be danger of its impinging on some viscus and endangering life by exciting inflammatory action.

I think the system at such times is susceptible to our treatment, and believing firmly as I do in constitutional treatment, I would employ such remedies as would have a tendency to hold in check and arrest any morbid action.

Under the influence of these remedies, with proper hygienic treatment, we can at all times arrest morbid growths and processes, and nature will often remove the growths by absorption. If she does not, and it simply involves the shaft of the bone, I should let it remain there; it is only so much more bone structure,

In a case which some will remember, the patient, a little boy, said "it was his best leg."

He came to me with exostosis of the tibia in two large nodules, the upper portion of the tibia being perhaps three inches in diameter, and the lower portion two inches and three-quarters. He was treated constitutionally for six months. We arrested the disease and diminished the size of the bone fully one-third, improving his general appearance and the constitutional disturbance that at first attended the case. At his last visit to the clinic, the boy said this was the best leg of the two, and if he were going to play foot-ball, and wanted to give the ball a good kick he always used that leg, feeling more confidence in it than in the other one. There was a larger growth of bone and increased strength, and after the inflammation had been stopped it supported him better than did the other leg.

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I do not know whether this case before us is a malignant growth or not. This must remain in doubt, unless the constitutional history can be traced back in the history of this child. I should be very guarded about calling it a malignant trouble. Such a stigma should not be stamped needlessly upon the child.

If there is a malignant tendency in the family you can get the history, and if there is a constitutional history then other troubles will follow this. I think that under strict homœopathic treatment, with remedies well selected and judiciously administered, the case will be in safe hands. I should not interfere surgically unless it is necessary to amputate the limb to save the child's life.

DR. J. C. BURGHER: I have nothing to add, but wish to mention Silicea in connection with the preparations of lime.

DR. ALLING: I saw the case and would like to call attention to *Acetate of manganum*. Good results will follow from that. I would give it in the thirtieth or two hundredth, or far higher. I noticed that the boy limped as though he had pain.

DR. BIGGAR: By permission Dr. McDermott presents a case of a child upon which he wishes an opinion. I saw this case a few weeks ago. The patient has been in the hands of two very good old-school physicians, who have given up, saying they must wait for new developments. When the child was about 20 months old the mother noticed that she complained of pain, saying her leg hurt her. This state of affairs continued for some time; then the child commenced to limp, she would fall upon the ground, and she complained of very great pain during the night. After being ill for four weeks she got over her limping, but it returned a year ago, after she had had the measles.

DR. WILLARD remarked that the patient had been examined, and that the disease was one of coxalgia.

DR. FRANKLIN: I thought from the appearance of the child that it was hip-joint disease. I am now certain that is the trouble.

On motion the discussion closed.

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SECTION VII.

REPORT

OF THE

BUREAU OF ANATOMY AND PHYSIOLOGY,

A. R. THOMAS, M.D.,	Philadelphia.
W. VON GOTTSCHALK, M.D.,	Providence, R. I.
THOMAS SHEARER, M.D.,	Baltimore.
T. Y. KINNE, M.D.,	Paterson, N. J.
H. B. VAN NORMAN, M.D.,	Cleveland, O.
S. P. HEDGES, M.D.,	Chicago.
S. J. BUMSTEAD, M.D.,	Pekin, Ill.
O. S. RUNNELS, M.D.,	Indianapolis, Ind.
W. BUDD TRITES, M.D.,	Philadelphia.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 9.

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XXV.

NEW VIEWS ON THE PHYSIOLOGY OF THE NERVOUS SYSTEM.

By A. R. Thomas, M.D., Philadelphia.

In no field of physiology has there been such advance in discovery, during the past ten years, as in the functions of the brain and nervous system. While the anatomy of the brain has been long and well understood, from the difficulty attending experimental observation the physiology of this organ has been but imperfectly determined. The employment of a new method of investigation, however, within the past decade, has resulted in the establishment of certain facts which are likely to lead to still further and more important discoveries in this direction. I refer to the employment of electrical irritation of the brain by the galvanic current, as first used by Fritsch and Hitzig in 1870, and since by Carville, Duret, Ferrier and others. With a single exception, these experiments have been made upon the lower animals, and only after an operation for exposing the brain, the severity of which it might naturally be supposed must more or less interfere with the character of the results, yet from the great care observed in conducting these experiments, in connection with the fact of their frequent repetition by many observers, and the uniformity of results obtained, the deductions arrived at must be accepted as in the main conclusive.

Commencing with fishes, the lowest of vertebrates, these experiments have been continued with reptiles, birds and several

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orders of mammals, the more important having been conducted upon monkeys, animals more nearly allied to man as well in the organization of their brain as in their general physical development.

While these experiments have been of much value in demonstrating the function of the medulla oblongata, pons varolii, crura cerebri and ganglia of the base of the brain, it is with the cerebral hemispheres, and especially the cortical portions of these bodies, that they have proved of greater value and importance.

It has long been admitted that the cortical portion of the cerebral hemispheres is the seat of the mental faculties; that it is with this that we feel, think and will; but with the exception of the theoretical divisions of the mind by the phrenologist into various "faculties," and the fanciful mapping out of the surface of the brain into "organs" to correspond with these several faculties, heretofore no conclusion has been arrived at as to "whether the cerebrum as a whole and in each and every part contains within itself, in some mysterious manner inexplicable by experimental research, the possibilities of every variety of mental activity, or whether certain parts of the brain have determinate functions." It is upon this point especially that these experiments have thrown much light.

The method of conducting these experiments has been by the direct application of blunt electrodes to the surface of the brain, after the careful removal of a portion of the cranial walls, the latter operation being performed while the animal is under the influence of an anæsthetic. Varying degrees of strength of the galvanic current are employed, from an intensity barely sufficient to be appreciated when applied to the tip of the tongue, to that of sufficient power to cause structural lesion of the parts in contact. As a rule, these experiments have been made after the animal has recovered from the etherization, as this condition appears to modify much the character of the results.

The following conclusions have been reached as a result of these varied and oft-repeated experiments: First. That certain gray portions of the matter of the cerebral hemispheres act as *sensorial centres*, to which are conveyed impressions of both a general and special character. Second. That other portions act

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as *motor centres* controlling the action of certain muscles or groups of muscles.

While these experiments have mainly been made upon monkeys, lower orders of mammals, as dogs, cats, rabbits, etc., as well as birds, reptiles and fishes, when subjected to similar tests, give forth results of a highly confirmatory character, enabling the experimenters to locate with great precision these several centres in the monkey. The brain of man being constructed upon essentially the same type as the monkey's, and presenting a similar though more complicated arrangement of convolutions, the inference is a fair one that the same centres, both motor and sensory, exist in the cortical portion of his brain, as in the latter animal.

The facts of human cerebral pathology also, as well as the results of a single application of the electrical test in a case where the brain of a man had been exposed by accident, are calculated to sustain the above conclusion.

The following sensorial centres have been discovered, and their boundaries determined with considerable accuracy:

1st. *A Visual Centre.*—Located towards the posterior portion of the cerebral hemisphere in the brain of the monkey is found a prominent convolution, which Ferrier has called the angular gyrus. Destruction of the gray matter of this region on one side is followed by blindness of the opposite eye; while destruction of this portion on both sides is followed by blindness of both eyes, while every other sense as well as muscular power remains undisturbed.

2d. *An Auditory Centre.*—Located in the middle lobe of the hemisphere, and in what has been called the superior temporo-sphenoidal convolution, the same experiments have demonstrated an auditory centre, destruction of these being followed by evident loss of appreciation of sounds.

3d. *A Tactile Centre.*—From numerous and carefully conducted experiments it has been demonstrated that the gray matter of the hippocampus region constitutes a centre of tactile sense, destruction of this region on one side being followed by loss of sensation on the opposite side of the body, without any muscular paralysis.

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4th. *Centres of Smell and Taste.*—Within the middle lobe, and in the neighborhood of the hippocampus, are believed to be located the centres of both smell and taste. From the close relation of these centres, as well as from the difficulty of reaching them without disturbing or destroying adjoining brain-substance, there is less certainty as to the boundaries of these centres, although the fact of their existence in this locality appears to be without question.

Similar methods of investigation have resulted in the discovery of several definite points, limited in area, which are unmistakably *centres of motion*, simple stimulation of which by the galvanic current produces a spasmodic action of the single muscle or the group of muscles which the centre controls, while destruction of these centres results in paralysis of the same muscles.

The conclusions to be drawn from these facts may be summed up in few words. The cortical portion of the hemispheres, instead of composing a single ganglion or nerve-centre, and acting as a whole in the performance of its function as the organ of the mind, is, on the contrary, a highly compound ganglion, certain definite portions acting as centres for the reception of various sensorial impressions, others serving to control the movements of the various voluntary muscles. Again, sensorial impressions passing no further than the optic thalamus, the great basal ganglion, may give rise to various reflex movements, but the mind can become conscious of these impressions, and originate voluntary movements in response, only as they rise to their special centres in the cortex of the brain.

Mental operations, always the result of sensorial impressions, are undoubtedly carried on in other portions of gray matter of the cortex, all these centres, both sensorial, motor and psychical, if we may so term them, being connected by the layers of white fibres intermixed with the gray, and thus acting as commissures for uniting and bringing into close relation the whole complex cortical ganglion.

In our estimation these experiments with their results, offer the key that is ultimately to unravel the whole mystery of cerebral physiology.

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XXVI.

A STUDY IN MENTAL PHYSIOLOGY.

By A. C. Cowperthwaite, M.D., Nebraska City, Neb.

To some it may be distasteful that we assert the existence of a mental physiology; yet why not a science which treats of the phenomena of brain-force just as well as a science which treats of the phenomena of physical force, each arranging and classifying according to development and action into different names or functions?

It is, nevertheless, true that he who dares to affirm the existence of a physiology of mind is at once classed by many as a materialist, and without further investigation his theories are denounced, and he is made to assume companionship with Comte and his followers in the realms of positive philosophy. He who dares to think for himself, and avow a belief in something more than a supernatural mental life, and who sees the actions of the higher life in man through the same channel of vision as he sees the lower, must expect to be frowned down and ridiculed by certain ones who style their belief "orthodox," and who are ready to excommunicate all who do not agree with them. Such a condition of affairs undoubtedly arises from the fact that men, as a rule, form their ideas of mental functions from a metaphysical standpoint, and study its manifestations afterwards, hampered by philosophical theories and ignoring physiological truths. This method of investigation is entirely opposed to the spirit of true science, and can only prove satisfactory to those who are ready and willing to sacrifice truth to the interests of a self-constituted

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type of religion. That only will bear the test of strict investigation which has been established strictly on the grounds of inductive inquiry. It is remarkably strange that great men, many of them in our own profession, follow strictly the inductive method of research in all departments of science until they near the temple of the mind, and then, discarding that which had so faithfully guided them to truth in times past, they rest all belief and all investigation upon an entirely different basis, and remain satisfied with the erroneous conception that they are in the presence of a mysterious entity or incorporeal essence—a spiritual phenomenon, vastly superior to the body, which it only inhabits as its earthly tenement, and from which its noblest aspirations are to be free.

It is, no doubt, very evident that there is much that is mysterious, and, at present, unexplainable, in connection with the phenomena of mental life—and possibly such may ever be the case; yet that is no reason why the true scientist should be appalled at the magnitude of the task, or rest content with the ancient doctrines of Plato and his successors, without striving the more to unravel the complexities of mental force, and evolve therefrom ideas which may enable him to more fully comprehend mental function and to fitly estimate mind as the highest, most complex and wonderful achievement of organized skill.

As in all sciences, so in this, it cannot be successfully studied without beginning our investigations with simple instances, noting the physiological manifestations in animals, in children, in idiots, in savages, mounting by degrees to the highest and most recondite facts of consciousness, the interpretation, or rather the misinterpretation, of which constitutes the so-called mental philosophy.

In all kinds of scientific study, whether mathematical, mechanical, physiological or other, it is quite easy to understand why a thorough knowledge of the rudiments, the simpler forms of scientific applications, are necessary in order to be able to disentangle the complexities of the more advanced problems. While, on the contrary, he who begins his studies when he ought to leave off is sure to become confounded, and will never fully understand either the simple or the complex. In no other depart-

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ment of science is this more true than in a study of the physiology of mental life, and we may only be successful in our studies by beginning our observations with the simplest bodily manifestations. This is the more necessary from the very evident fact that no one is competent to decide just where physical brain function ends and mental function begins, so gradual is the change and so comparatively inexplicable are the intimate relations existing between the two.

There is little room to doubt but that nearly all the actions of man, and many of those of the higher animals, do evince mental operations, but just where in the animal kingdom these first appear is a question not easily answered.

The queries, "Is brain the organ of mind?" and, "Is brain the exclusive organ of mind?" have for ages demanded the attention of thinking men. While physicians or physiologists cannot but admit that the brain is the organ of thought, yet many differ as to whether it is the exclusive organ of mind, or whether the entire nervous system, of which the brain is but a part, is not involved in the creation of cerebral manifestations.

In the lowest forms of animal life no nervous system exists, external impressions seemingly being received and transferred by reason of their homogeneous substance. In such no intelligence is indicated, and they appear to vegetate rather than live.

In the second higher order of animals a rudimentary nervous system appears, consisting of a single nerve-cell connecting two fibres, which serve as conductors and give rise to the simplest form of reflex action, but as yet no intelligence is manifest. As we go still higher the more heterogeneous becomes the body, and the more diffuse and complex the nervous system, until rudimentary organs of special sense appear. Here the perception of external impressions is more varied and discriminating, partaking less of reflex action and irritability, and more of that which is designated as sensory perception and sensori-motor reaction. In such instinct in its lowest form makes its appearance, but intelligence can scarcely be said to exist.

So far no trace of cerebral hemispheres is found, these first appearing in a rudimentary manner in a fish, still larger in the bird, gradually enlarging as we ascend to the mammalia, be-

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coming nearly perfect in the higher mammalia, and fully developed in man. As soon as these hemispheres appear, external impressions are passed from the sensory centres to the brain centres, which in accordance with their spinal nature, give rise to ideas, forming another and higher type of sensibility, which is known as ideational perception. In the fish there is the first distinct appearance of simple ideas, and of the lowest forms of emotion; carp will collect to be fed at the sound of a bell, thus giving evidence of the association of two simple ideas; and a shark, suspicious of mischief, will avoid the baited hook.

In birds the evidences of intelligence are much greater than in the fish, as is shown by the comparative ease with which they are taught tricks truly marvellous, and those that teach them say that different birds differ greatly in both intelligence and temper. In birds also we observe the first evidences of emotion, as numerous instances recorded plainly exhibit in birds a display of both love and jealousy.

In mammalia there is a gradual advance in intelligence, conformably to the increased size and complexity of the brain-structure, from very lowly manifestations up to the highest forms of brute wisdom, which differ only in degree from the lowest forms of human intelligence. The high degree of intelligence exhibited by some horses is acknowledged by all. Out of thousands of examples I will instance the case of a valuable horse in the late Franco-Prussian war, who was so seriously injured by an accidental explosion that it was thought necessary to shoot him. The soldiers detailed for that duty only succeeded in inflicting a serious wound. The horse immediately wheeled and started doublequick for the hospital, four miles distant, nor did he stop until he arrived at the tent of the surgeon-in-chief, when he soon expired. This horse had repeatedly seen wounded soldiers carried to the hospital, and reasoned that he ought, when wounded, go to the same place for relief.

But, says one, this is only a display of instinct. Singularly overestimating himself, man has been pleased to give the name of instinct to undoubted psychical manifestation in animals. There is much vagueness of idea in regard to the possession of reasoning powers by animals, the general tendency being to con-

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found reason and instinct together. Instinct is, strictly speaking, a certain power or disposition of mind by which, independent of all instruction or experience, animals are directed unerringly to do spontaneously whatever is necessary for their preservation. Reason differs from instinct in the widest possible manner; the former being an exercise of the will, and the latter independent of it. Instinct is implanted at birth, while reason is an aftergrowth of the mind. Instinct acquires no exercise of thought, while reason is a deduction of a conclusion from premises. This power is possessed by animals in common with ourselves, although not to the same extent; and it is by the superiority of our reason over that of animals that we maintain our supremacy. Very often deductions are insufficient or premises false, but the process is still reason and has no connection with instinct. Reason often conquers instinct, especially in domesticated animals, their reasoning power being developed by contact with the same of a higher quality than their own.

As an example of reason in animals, I will give one or two instances: first that of a dog named Mess, who belonged to a captain in the Forty-fifth New York Regiment, and who was noted for his exploits and feats of sagacity and wisdom. On one occasion he was run over by a carriage and had his leg fractured. He would permit no one to touch the limb except the surgeon, not even his master. The surgeon he allowed to set it, and stood the pain without a groan. Thereafter, until the splints were removed, he made his appearance daily at the surgeon's quarters, and taking his place among the sick soldiers awaited his turn with eager patience. Always afterwards, upon receiving the slightest hurt, he would at once repair to the surgeon's quarters, and insist quite plainly upon an immediate and careful examination of his injuries.

The following anecdote, related by the late Cæsar Otway, who produces vouchers for the exact truth of the story, affords a remarkable instance of animal intelligence, particularly of the capability possessed by the lower animals of understanding the language of man: "A gentleman of property had a mastiff of great size, very watchful and altogether a fine and intelligent animal. Though often let out to range about, he was in general

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chained up during the day. On a certain day when he was let out he was observed to attach himself particularly to his master. When the servant came as usual to fasten him up, he clung so determinately to his master's feet, showed such anger when they attempted to force him away, and altogether was so peculiar in his manner, that the gentleman desired him to be left as he was. With him the dog continued the whole day, and when night came on still he staid, and on going to his bedroom the dog resolutely and for the first time in his life went up with him, and rushing into the room took refuge under the bed, whence neither blows nor caresses could draw him. In the midst of the night a man burst into the room, and with dagger in hand attempted to stab the sleeper. But the dog started at the robber's neck, fastened his fangs on him, and so kept him down that his master had time to call for assistance and secure the ruffian, who turned out to be the coachman. He afterwards confessed that seeing his master receive a large sum of money, he and the groom conspired together to rob and murder him, and that they plotted the whole scheme leaning over the roof of the dog's kennel."

The statement does not assert that the dog understood human language as completely as the men themselves did, but it is evident that the animal did gather from the conversation of the men that they intended to injure his master.

I have only given two or three of as many thousand anecdotes equally as authentic and convincing. Is such conduct in animals the result of an inborn instinct, a blind, involuntary impulse, impelling them to action, or is it a deliberate result of comparison and conclusion which require the exercise of thought? and is not the mental process through which this is effected, in its essential essence, perfectly the same as in man, though the power of judgment may be much weaker?

We do not assert that animals are possessed of mind, but we do assert that they possess the lower but equally necessary attributes of mind, and that these attributes of mind are first manifested with the first appearance of convolutions in the brain; that as these convolutions increase in number and complexity, so also increase the mental functions of the animal, a correspondingly gradual increase of intelligence from the ruminantia to the

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higher type of animal life; so too do they ascend from the highest type of animal life to the lowest form of human life; and the same correspondence of development in brain and mind continues as we examine in an ascending scale the different races of men, as well as different men of the same race.

Our best psychologists agree that the size of the brain bears a general relation to the mental power of the individual. Dr. Thurman, from carefully compiled tables, gives the average weight of the brain in Europeans as 49 ounces, that of distinguished men 54.6 ounces, thus proving a generally accepted fact that the average weight of the brain in the educated class is greater than in the uneducated. On the other hand the brain is commonly very small in idiots, and the convolutions are simpler and less developed, approaching those of the ape and baboon.

Still further, the study of the nervous system has revealed that there exists a specific difference in the constitutions and functions of those cells which in the aggregate compose the nervous system, though to the eye they may often appear exactly alike; and the microscope has established the fact that there are structural differences between the nerve-cells in man and those in the higher mammalia. It is very probable that these differences extend to both the cells of the sensory ganglia and those of the higher nerve-centres, and equally probable that they apply to the different groups of cells of the same system, and that each form of cell life has its specific functions to perform in cerebral manifestations.

So it is equally probable that the different convolutions of the brain subserve different functions of mental life, but here, as is also the case with the study of cell function, we cannot classify or arrange each by itself, and say just what function in cerebral manifestation it must fulfil. There are generalizations that may be made, which in many cases will prove correct, but a close and scientific investigation is impossible with our present modes of access. Thus, that the broad and prominent forehead indicates great intellectual power has been generally accepted as true since the days of Grecian philosophy, but just what part of the mental process is performed by each respective portion of the anterior lobes, science does not as yet decide. So also is it pretty well

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ascertained that the posterior lobe and lower range of the middle lobe are the regions of the animal propensities, while the moral sentiments are supposed, from reasonable conclusions, to have their organs developed in the coronal region. To this extent the location of these general brain functions have been pretty thoroughly ascertained; but when we come to subdivide these three classes of brain function into some thirty or forty sub-functions, and give to each of these sub-functions its permanent location in the cerebral economy, we are undertaking a task which science has yet failed to accomplish. And still farther, when it is claimed that the development of these functional centres may be accurately determined from an external examination of the skull tables, we enter the realms of the impossible, for undoubtedly many of these centres lie deeply hidden in the recesses of the lower convolutions of the brain, and their development could not in the least degree affect the bony structure of the skull. But the limits of this paper will not permit us to continue this subject farther. A volume would be too small to contain all that might be said on this most important branch of physiological research. However, I desire to impress upon all who are inclined to carry forward these investigations, the necessity of studying mind in the same way that we study anything else, not allowing a preconceived prejudice to mar our ideas of this the grandest and highest type of organized life. Let not the mere word "materialism," so oft repeated, deter from seeking after truth in the study of mind. Surely in the assertion that mental phenomena are but functional manifestations of brain substance, there is nothing tending to atheism or infidelity, as those who so often quote "materialism" would have us infer and believe.

Is it not equally as conceivable that matter may be capable of such exalted functions as those called mental, as that it can be the mechanical instrument through which operates an immaterial mind? Is the brain a dead instrument, or is it a living organ with functions of a higher kind than those of any other organ, insomuch as its organic nature far surpasses those of any other organ? What, then, are those functions if not mental?

Dr. Maudsley, after speaking of the wonderful operations of matter in animal and vegetable life, aptly inquires:

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"Are we to believe that the highest and most complex development of organic structure is not capable of even more wonderful operations? Would you have the human body, which is a microcosm containing all the forms and powers of matter organized in the most delicate and complex manner, to possess lower powers than those forms of matter exhibit separately in nature? Trace the gradual development of the nervous system through the animal series, from its first germ to its most complex evolution, and let it be declared at what point it suddenly loses all its inherent properties as living structure, and becomes the mere mechanical instrument of a spiritual entity. In what animal, or class of animals, does the immaterial principle abruptly intervene and supersede the agency of matter, becoming the entirely distinct cause of a similar though more exalted order of mental phenomena?"

All will admit the utter impossibility of thus establishing a line of demarcation, and of saying just where animal instinct, so-called, ends and true mental phenomena begin. The more, however, we inductively study the subject, the nearer will we be able to arrive at a solution of this complex and mysterious problem. Physiology may not for many years to come furnish the complete data of a positive mental science. In the first place it is absolutely dependent upon the physical and chemical sciences, and must, therefore, wait for the progress of them; and in the second place, its close relations to psychology have tended to keep it the victim of the metaphysical spirit. But the light of truth is fast dispelling the darkness of superstition, and the day cannot be far distant when a positive science of mental physiology shall forever displace the erroneous conceptions of metaphysical psychology.

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XXVII.

VICARIOUS EXCRETION.

By O. S. Runnels, M.D., Indianapolis, Ind.

Secretion and excretion are generically alike. The elementary structure of all the various organs is the same, and there is no fundamental difference in the two processes other than such as arises out of the diverse origin and destination of their separate products. The materials of secretion, while existing for the most part in the blood, are separated and metamorphosed by the various glands for specific use in the organism. The materials of excretion having almost perfect existence in the blood are simply separated by the various excretory organs, with little or no change for the purpose of expulsion from the system.

Secretion is the function of the glands, a creative process adding to the materials of growth; excretion is the function of non-glandular organs, a mechanical process disposing of the materials of débris and death.

The animal economy is a system of government superior to every other. With the general principle of loyalty predominant in every region cohesion is both established and perpetuated, and the beauty of coöperation most admirably exemplified. Supplied with numerous organs having special form and function, this organism moves on in its complexity to the fullest enjoyment of harmony and peace. Each part, with definite work to do, carries on its operation to most complete fulfilment, and the concordant aggregate of result is what we see in rosy cheek and sparkling eye and vigorous animation, and denominate health.

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But in such a multitude of officeholders there is ever danger of irregularity, either through self-weakness or accident. It is to a study of these contingencies which nature is being continually called upon to meet that I invite your knowledge and investigation.

If an eye become disabled or destroyed, the remaining organ immediately multiplies its power, and is shortly able to do eleven-twelfths of the work formerly accomplished by the two.

If both eyes be obliterated, the touch and taste, the smell and hearing, are quickly cultivated to the degrees of efficiency much in advance of the normal standard, and the loss is thus in a measure restored. Disqualify an ear, the other will increase its power and supply the deficit. The eyes of deaf mutes are trained to do the service of the ears, and their hands are vocal organs.

Suspend function in the right lobe of the cerebrum, and healthful intellection may be performed by the left, and *vice versa*. Mammary glands, kidneys, ovaries and testicles are pairs pledged to the same accurate performance of function, and in case of individual disability each one stands ready to assume the duties of its fellow.

The pulmonary apparatus is capable of the most remarkable elasticity. Its daily capacity for three hundred and fifty cubic feet of inspired air can be doubled or quadrupled or diminished to almost immeasurable quantity, without loss of integrity, as is witnessed in cases of prolonged muscular exertion, in states of trance and in certain critical conditions of disease.

The demand for oxygen for aeration of blood, and the quantity of carbonic acid for excretion depend almost entirely upon the waste of tissue incident to nervous or muscular activity. The aeration of the blood also may in some degree take place through the medium of the cutaneous surface, and in some of the lower animals indeed this is a very important part of their respiratory process. In man $\frac{1}{3}\frac{1}{0}$ to $\frac{1}{6}\frac{1}{0}$ of the amount of carbonic acid thrown off is eliminated by the skin. The stomach is also an organ of most obliging accommodation. It generally takes what it can get, and makes the most of it. If two and a half pounds of solid and three pounds of liquid food cannot be obtained daily, it gives an unmistakable protest and conforms to the

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circumstance. In case of inability to perform its function the rectum and skin lend their powers in substitution, and in case these are not supplied with suitable pabulum, every tissue in the body is laid under contribution for the general support. Here too the rate of waste constitutes the tone of the demand, and is the absolute dictator of quantity required.

The principle of accommodation is further well exemplified in the case of the liver. Having like the lungs a twofold function, it separates from the blood a large quantity of superfluous hydrocarbon which has been acquired in the circulation, and combines this with other elements into a secretion, the bile, which is of great importance in the process of digestion. But the liver in the performance of this work has complementary relations with both lungs and intestinal glandulæ; for the more active the respiration the less the bile secreted, while if the respiration be lowered in amount by activity of the body and a high external temperature, a larger quantity of unoxidized or imperfectly oxidized excrementitious matter accumulates in the blood, giving rise to that augmented production both of the biliary and of the fecal excretions which constitutes diarrhœa. "Such," says Carpenter, "is probably the occasion of the 'bilious attacks,' and 'autumnal cholera,' so prevalent at the close of summer; the subjects of these being most commonly persons who have not reduced their consumption of food during the warm season in accordance with the diminished demand for the production of heat within the body."

And thus, on the other hand, when the liver is not adequately effecting the depuration of the blood from the constituents of bile, an augmentation of the respiration by active exercise in a low temperature gives most effectual relief. So, also, in cases of obstruction or non-elimination of bile, do we have the jaundiced condition which is but the expression of a general effort on the part of all organs to perform the unperformed functions, as is proven by tests revealing bile in all the secretions and excretions of the body. Discharge of blood from other mucous membrane than the uterine at the menstrual epoch is another item in the same category.

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By these instances and many others that might be cited, the beautiful elasticity and the admirable utilization of conservative force in the economy is portrayed, and faith in its capabilities strengthened.

It is, however, to the grand sewer of the body, the kidneys, that I desire to call your attention. You are familiarly observant of the remarkable elasticity of the normal function of these organs, and I need only remind you that the amount discharged daily by a healthy adult is 35 f℥, varied by ingesta; that of this amount one ounce is urea; that all the ingredients of the urine contain nitrogen, and are crystallizable, and that they exist in the blood, and are simply drained off or excreted by the kidneys. It is commonly known also that the skin assists materially in this process of elimination, and that the amount of perspiration, sensible and insensible, varies in a corresponding degree the amount of urine excreted. The same is also admitted to be true with the lachrymal and salivary glands, as is evidenced in cases of excessive grief and ptyalism.

These are causes of common variation in the quantity of urine excreted, and are not considered abnormal; they lessen merely the volume of water in the urine, while the solids are not diverted from their accustomed channel.

When, however, the usual function is disturbed or suspended, a different table of facts is presented to us. The ability of other excretory organs to assume, under these circumstances, the duties of the kidneys is now well established by the many instances of vicarious excretion on record. These observations lead to the settlement of the fact that a fluid presenting the essential characters of the urine may pass off by the mucous membrane of the intestinal canal, by the salivary, lachrymal and mammary glands, by the testes, by the ears, nose and navel, by parts of the ordinary cutaneous surface, and even by serous membranes, such as the arachnoid tunic lining the ventricles of the brain, the pleura and peritoneum. Thus Mayer found that when the kidneys were extirpated in a guinea pig, the cavities of the peritoneum and the pleura, the ventricles of the brain, the stomach and the intestinal canal contained a brownish liquid, having the odor of urine; that the tears exhaled the same odor; that the gall-bladder con-

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tained a brownish liquid not resembling bile; and that the testes, the epididymis, the vasa deferentia and the vesiculæ seminales were gorged with a liquid perfectly similar to urine. Chirac and Helvetius tied the renal arteries of a dog and remarked that a urinous fluid was passed off from the stomach by vomiting.

A remarkable case is quoted by Nystin, of Zevianc, in which a young woman having received an incised wound in the external genitals, which would not heal, the urine gradually became more scanty until none could be passed even with the assistance of the catheter; at last dropsy supervened, with sweats of a urinous odor, and vomiting of a urinous fluid, which continued daily for thirty-three years; on post-mortem examination the kidneys were found disorganized, the right ureter entirely obliterated, the left nearly so, and the bladder contracted to the size of a pigeon's egg. In some other instances the urine appears to have been excreted and then reabsorbed in consequence of some obstruction to its exit through the urinary passages.

A case of this kind is reported also by Nystin, in which the urethra, having been partially obstructed for ten years by an enlarged prostate, the bladder was so distended as to contain ten pounds of urine, and the serosity of the pericardium and of the ventricles of the brain exhaled a urinous odor. Another case suffering obstruction by calculi ejected a urinous liquid from the stomach by vomiting. A case is recorded of a girl born without anus or external genitals, who nevertheless remained in good health to the age of fifteen years, passing her urine from her nipples, and getting rid of fecal matters by vomiting. So a great number of these cases of complementary function are recorded in which there is but slight deficiency of evidence that the fluids were really *urinous*, urine not having been obtained by chemical analysis, and the smell having been chiefly relied on. "The urinous odor, however," says Carpenter, "when distinct, is probably nearly as good an indication of the presence of the most characteristic constituent of the human urine, as is the appearance of urea in its separated form. The passage of a urinous fluid from the skin," he continues, "has been frequently observed in cases in which this renal secretion was scanty; and the critical sweats by which attacks of gout sometimes terminate, contain

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urates and phosphates in such abundance as to form a powdery deposit on the surface."

I desire to carry your minds yet further to the consideration of certain rare and paradoxical cases which are disposed of in explanation by the same truth as are the foregoing. An ischuria occurred in my own practice two years ago in a case of cancer of the uterus. About three months before death hæmorrhages from the uterus ceased entirely, and there was not, at any time, sensible discharge of pus or offensive odor about the case. At one time, subsequently, urination was suspended for six days. There was no distension of the bladder, and the catheter failed to find urine. The vesical and renal regions were free from pain. The usual limited amount of ingesta was taken. There was no sensible perspiration; the cellular tissues did not make collections; the fæces were hard and dry, being passed every second day, and she felt as well as usual. At the end of the time the function was resumed by the expulsion of the usual amount of apparently normal urine. After two weeks the urine was again stopped, with the same phenomena, for the remarkable space of sixteen days.

The greatest care was exercised by attendants at this juncture, to avoid the possibility of error. The patient's clothes were always dry, and the bowels constipated. Again the function was resumed, and for three weeks the normal habit was maintained, when it was again interrupted by another six days' suspension. Once more established, it was not again discontinued till death, which came in about ten days. The autopsy revealed a bladder wall perfect, ureters normal and kidneys greatly hypertrophied, having an individual weight of seven ounces. The renal tissue was pale but otherwise normal in appearance. The os and cervix uteri were entirely consumed, and the fundus was only a mass of diseased and putrid tissue.

Hufeland's Journal for August, 1827, contains the report of a case of "total ischuria for seven weeks, with absolutely no substitutional discharge, and apparently accompanied by a perfect state of health." This case, occurring in practice of Drs. Hubenthal and Gramm, of Wietefosk and Riga, is given in very minute detail, with treatment, and ended in recovery.

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The patient, a boy of twelve years, of wealthy parents, after slight gastric illness, suspended micturition, and did not pass a drop for the space of seven weeks. "He had hard, dry stools every second or third day. He never perspired, his skin being always dry, even after using prescribed warm soap baths. He ate moderately and drank daily liquid to the amount of a pint and a half. All this time his sleep was quiet and refreshing, and he felt perfectly well. Had no disagreeable sensation in renal or vesical region, and no part of his body was ever swelled." "In consideration," it is said, "of the wealth of the parents, who withheld no means to procure help for their child, and were exceedingly anxious for his relief, and the patient himself, who greatly desired to be cured, and the strict and constant supervision to which he was subjected, deception could not have been practiced."

On page 62 of a practical treatise on the diseases of the kidneys, by Dr. George Kœnig, of Leipsig, 1826, is mentioned a case of Dr. Parr's, where a total suppression of the urinary excretion lasted for six weeks, during which, for a day or two only, a copious perspiration took place.

The same writer, out of the *Bibliothèque Medicale* for 1815, cites a case of total ischuria of several months' duration, which, by gradual exhaustion, ended with death.

The question now arises, What are we to do with these facts? It will not do to cry them down and sneer in derision at those who have had honesty and bravery enough to report them. It will not do to cast them aside with a puff because they come in apparent conflict with our received physiology. No; that will be puerility and satisfied ignorance. Science demands that the facts be investigated and explained, for fact is beyond everything, it is below everything and upon it everything must stand.

Descending to the lower orders of animated life, we find among the organs what is termed "community of function," by which is meant interchangeable or substitutional ability of function; lungs, for instance, that will and do answer not only for respiration, but digestion, secretion, excretion, absorption and exhalation. A few organs, in fact, doing in embryo all that is accomplished in our complex being.

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We find, as progression is made in the scale of being, that there is a gradual specialization of function being established, one organ after another being settled in separate work, while it still retains its original powers in the community, its ability to assume and discharge the duties of its neighbor. This principle can be readily traced through all the gradations of animal advancement, the lines of special function growing more distinct while the original community of function is never entirely obliterated. This is a fact of such convincing observation that the following law has been established: "In cases where the different functions are highly specialized, the general structure retains more or less the primitive community of function which originally characterized it." And out of this law can be drawn satisfactory explanation for all these deviations in function, these most remarkable metastases. For somewhere in the line of evolution shall we find our special functions performed in other manner, as in the batrachia, where respiration can be carried on perfectly through the skin, and of which power we preserve a trace; or as in reptiles and birds, where the intestinal canal assumes the duties of our urinary apparatus and voids the urine in a semifluid or solid state. An instance of this is happily shown in the case of the ostrich, a bird which discharges its urine in solid chunks of several ounces weight, and which, upon analysis, is proven to be almost entirely composed of urea.

Hence we can understand how these products of decomposition at least, which accumulate in the blood where the usual exit-pipe is no longer open, may find their way through other channels, and we come to a better comprehension of this provision for vicarious service, which is obviously intended to diminish the injurious results of a suspension of the excretory functions, and which is, at the same time, in complete and beautiful harmony with the general principle that the specialization of a function does not involve the complete extinction of its original generality.

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SECTION VIII.

REPORT

OF THE

BUREAU OF PSYCHOLOGICAL MEDICINE,

T. L. BROWN, M.D.,	Binghamton, N. Y.
F. A. ROCKWITH, M.D.,	East Saginaw, Mich.
H. V. MILLER, M.D.,	Syracuse, N. Y.
A. B. SPINNEY, M.D.,	Detroit, Mich.
JULIA FORD, M.D.,	Milwaukee, Wis.
M. O. TERRY, M.D.,	Utica, N. Y.
GEORGE W. SWAZEY, M.D.,	Springfield, Mass.
GEORGE F. FOOTE, M.D.,	Stamford, Conn.
O. H. MANN, M.D.,	Evanston, Ill.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

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XII.

THE DISTINCTIVE VERIFIED SYMPTOMS INDICATING THE CHOICE OF THE BEST REMEDY IN ACUTE MANIA.

By T. L. Brown, M.D., Binghamton, N. Y.

To be able at once to select the correct remedy has been one of the greatest causes of success in maintaining our comparative standing with the old school of medicine.

By increasing the certainty of choice in any given class of cases we mark our progress and materially add to our usefulness and command public confidence. To cure our patients is to control the thoughtful, the most intelligent, the best patronage, and consequently the most profitable class of patrons.

Every advance in our school, like the single remedy in the minimum dose, the single dose, with the certainty of a correct selection, tends largely to perfect our art as a true science, in the hands of earnest and consistent followers.

Aiming to aid in a utilitarian direction, I have arranged the verified symptoms which most certainly distinguish the choice of each remedy in common use from any or all the others. Accurate discrimination in the first prescription is the true basis of success.

Each remedy has the power of producing some symptoms unlike the symptoms of any or all the other remedies. These peculiar symptoms are the distinctive ones necessary to knowingly guide us to the choice of the most efficacious remedy. Without

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the knowledge of such characteristic indications every prescription is experimental and really most uncertain.

To be a homœopathic physician in name and not in practice is one of the fashionable errors of our school; and to be popular is not always a sign that we properly fill our most useful position.

Our practice should accord honestly with the true teachings of the law of our school. To be accurate should be the aim, to bring the best result of thought and action the end of human effort.

Remedies.

Aconite.—Fitful mood, changing from one thing to another; now he is full of mirth, whistles and warbles a song, and then he is disposed to weep.

Complaining fear of approaching death; predicts the day he is to die.

Great inconsolable anxiety.

Delirium, especially at night.

Alcohol.—Mania, with inclination to murder, or with inclination to incendiarism.

Mania, with excessive inclination to drink.

Hallucination of smell; imagines the devil has defiled his bed, and that it smells as the devil is supposed to.

Hallucination of sight; sees double, or thinks he sees a variety of objects, men, animals, snakes, good or bad spirits, angels or demons.

Hallucination of taste.

Aurum.—Disgust for life; suicidal tendency.

Melancholy; he imagines he is unfit for this world, and longs for death, which he contemplates with internal delight.

Great anguish, increasing unto self-destruction, with spasmodic contraction of the abdomen.

Peevish and vehement; the least contradiction excites his wrath.

Belladonna.—She attempted to bite and strike her attendants, broke into fits of laughter, and gnashed her teeth.

The head was hot, the face red, the look wild and fierce.

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Inclination to bite those about him and to tear everything about him to pieces.

She tears her nightdress and bedclothes.

Furious delirium.

Fury; she pulled at the hair of the bystanders.

Such fury (with burning heat of the body and open, staring and immovable eyes) that she had to be held constantly lest she should attack some one, and when thus held, so that she could not move, she spat continually at those about her.

In the evening he was seized with such violent delirium that it required three men to confine him.

His face was livid; his eyes injected and protruding, the pupils strongly dilated; the carotid arteries pulsating most violently; a full, hard and frequent pulse, with loss of power to swallow.

He sought continually to spring out of bed.

When put into bed he sprang out again in delirium, talked continually, laughed out and exhibited complete loss of consciousness; did not know his own parents.

Cannabis indica.—Uncontrollable laughter, till the face became purple and the back and loins ached.

He was in constant fear he would become insane.

Every few moments he would lose himself and then wake up, as it were, to those around him.

Exaltation of spirits, with excessive loquacity.

Imagines he hears music; shuts his eyes and is lost for some time in the most delicious thoughts and dreams; he fancies he is a king or an important person.

Great exaltation of mind, at times with enthusiastic language.

Very absentminded.

Cantharides.—Paroxysms of rage, with crying, barking and beating; they are renewed by the sight of dazzling, bright objects, when touching the larynx, when trying to drink water.

Anxious restlessness, ending in rage.

Anxious frenzy, with shameless, unchaste gesticulations.

An insolent and contradictory mood, in the afternoon.

Cicuta virosa.—Weeping, moaning and howling.

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Aberration of mind; singing; performing the most grotesque dancing steps; shouting.

Insanity; she does all sorts of absurd and foolish things, with heat of the body and longing for wine.

Cuprum metallicum.—Saying words not intended, forerunner of apoplexy.

Afraid of every one who approaches him; shrinking away from them; tries to escape.

Unconquerable sadness; constant restlessness, as if some misfortune were approaching; fears he will lose his reason.

Incoherent, delirious talk.

Attacks with savage malice, with proud bearing, and at times interrupted by clonic spasms.

Hyoscyamus niger.—Mania, with lasciviousness and occasional mutterings; sings amorous and obscene songs; uncovers his whole body.

Delirium, without consciousness; does not know anybody and has no wants (except thirst); with closed eyes; talks of business; fears to be poisoned or to be sold; scolds, raves.

Unconscious, with aversion to light and company.

Jealousy, with rage and delirium.

Inability to think; thoughts cannot be directed or controlled.

Sees persons who are not and have not been present.

Thinks he is in the wrong place.

Insane passion for work.

Indistinct muttering loquacity.

Abuses those about him.

Makes irrelevant answers.

Cannot bear to be talked to.

Opium.—Delirious talking; eyes wide open; *face red*, puffed up.

Dulness of the senses and at intervals sopor, with snoring, in old, emaciated persons; sees animals; affrighted expression of face.

Unconscious; eyes glassy, half open; face pale; deep coma.

Imagines parts of the body very large.

Thinks she is not at home.

Imbecility of will, as though annihilated.

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Illusions and frightful fancies.

Loquacious delirium, with open eyes and red face; furious delirium.

Vivid imagination; exaltation of the mind; increased courage, with stupefaction and dulness.

Platina.—Mania, with great pride; with fault-finding; with unchaste talk; trembling and clonic spasms, caused by fright or anger.

Delirium, with fear of men, often changing, with overestimation of one's self.

After anger, alternate laughing and weeping, with great anguish and fear of death.

Horrified by the thought that he would die soon.

Illusions; everything around her is very small and everybody inferior to her in body and mind.

Pride and overestimation of one's self; looking down with haughtiness on others.

She thinks all persons are demons.

Everything seems strange and horrible to her.

Stramonium.—Mania for light and company; cannot bear to be alone.

Strange, absurd ideas; thinks herself tall, double or lying crosswise, one-half of body cut off.

Says he converses with spirits; prays fervently; sermonizes.

Hallucinations which terrify the patient; sees ghosts; hears voices back of his ear; sees strangers, or imagines animals are jumping sideways out of the ground or running at him.

Coma, spasms, later, snoring; unconsciousness; jaw hangs; hands and feet twitch; eyes roll; pupils dilated; automatic grasping of hands toward nose, ears, etc.; difficult to swallow liquids.

Talks all the time, sings, makes verses.

Veratrum album.—Talks much about religious things; praying mania, with desire to cut and tear, especially clothes, with lewdness and lascivious talk.

Disposed to talk about the faults of others, or silent, but if irritated, scolding, calling names.

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Curses all night and complains of a stupid feeling, with headache and ptyalism.

Thinks himself distinguished; squanders his money.

Despair about his position in society; feels very unlucky.

Despairs of her salvation, with suppressed catamenia.

Dislikes to talk, except in delirium.

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SECTION IX.

REPORT

OF THE

BUREAU OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY,

W. H. WOODYATT, M.D., ... Chicago.
C. T. LIEBOLD, M.D., ... New York.
T. P. WILSON, M.D., ... Cincinnati.
HENRY C. HOUGHTON, M.D., ... New York.
GEO. S. NORTON, M.D., ... New York.
WM. A. PHILLIPS, M.D., ... Cleveland, O.
F. H. FOSTER, M.D., ... Chicago.

TO THE

THIRTIETH SESSION

OF THE

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XXIII.

IRIDO-CYCLITIS.

By T. P. Wilson, M.D., Cincinnati, O.

I have been assigned the duty of presenting you a paper upon the subject of irido-cyclitis. When notification of this first came to me from the honorable chairman of this bureau, I felt strongly disposed to decline the task on the ground that the subject has seemingly but little in it to interest a body like this of general practitioners. I felt, therefore, that it should be relegated to the sectional meeting of this bureau rather than be brought into an open convention of this sort.

A more careful survey of the subject has materially changed my opinions in this regard, and I am now convinced that it is one to which every medical man may profitably, and therefore should, turn his attention.

Certain portions of the eye are familiar to even the casual observer. To the unaided eye the conjunctiva, the cornea, the iris, the aqueous body and portions of the sclerotic are open to inspection. Only to one trained to using the ophthalmoscope are the vitreous, the choroid, retina, the optic disk and possibly the lens revealed *in situ*.

To both classes of observers it is a source of gratification that under a proper illumination and with needful accessories the parts studied and their condition are clearly and unmistakably apprehensible to the eye.

But our subject leads us into an investigation of a portion of the eye in the study of which the skilled ophthalmoscopist has

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little or no special advantage over his less fortunate brethren. Neither to the broad sunlight nor to the diligent quest of the dark room is one of the most important parts of the eye revealed. I refer to what is known as the ciliary body. I pause here to say that a misconception is liable to grow out of the use of this term.

The ciliary body, as we assume to name it, is composed of the ciliary processes, the ciliary muscle and the ciliary portion of the iris. These structures are greatly unlike each other in form and function. They agree chiefly, first, in their common proximity to each other; secondly, in having largely common sources of supply of blood and nerves; and thirdly, in having a tendency to become alike and simultaneously implicated in states of inflammation.

Perhaps I should in justice also admit that in the all-important work of accommodation these parts are the principal agents, and are in common, though by no means equally, concerned. But while the ciliary body as a whole is a myth, yet we may allow the term to stand if we hold it strictly to this anatomical interpretation.

It can be seen at a glance that we have here grouped under this designation, the ciliary body, a part of the eye the diseases of which, if they rise in importance equal to the importance of the function and anatomical relations of the structures they invade, must hold no mean place in the domain of ophthalmologic pathology.

Removed as the parts are from immediate observation, we are unable to differentiate between the probable varying pathological conditions that are incident to the tissues of which the parts are composed.

Another peculiar fact is worthy of notice just here, and that is that notwithstanding the close relationship sustained by the various structures of the eye, inflammatory states readily become circumscribed, and so are limited in their results. This is extremely fortunate, otherwise we should have with each attack of inflammation of the ciliary body either glaucoma or panophthalmitis. And since these results do sometimes follow, the subject is full of interest to the investigator.

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Stretching backward from the ciliary body, and in direct anatomical relation to it, especially through the ciliary processes, we have the well-known choroid coat, characterized by its great vascularity.

From the ciliary body downward and forward we have stretching the iris with a predominant nervous endowment. We may say then that the ciliary body partaking of both these tissues is characterized by both vascular and nervous morbid modifications, hyperæmia, congestion and suppuration from the former, and neuralgia from the latter. And these conditions represent to us about all we know of the morbid anatomy of the part.

But as to the etiology of cyclitis, we may advance somewhat further in our knowledge. In the first place, cyclitis may be primary, thus originating *de novo* in the ciliary body, in which case it has been my experience to find it caused by traumatic injury. It is, however, more commonly secondary, and consequent upon a previous choroiditis or a previous iritis. And this latter, whether commencing in the body and extending to the iris, or commencing in the iris and extending to the body, either being antecedent or consequent, constitutes the immediate subject of this paper, namely, irido-cyclitis.

When the ciliary body is involved in a condition of inflammation, we have chiefly, 1st, loss of accommodation; 2d, impaired sight; 3d, generally severe pain; 4th, great tenderness of the eyeball over the ciliary region; and 5th, if the parts go on to suppuration we have deposit of pus in the anterior chamber (hypopion).

Now if the choroid is involved, we have in addition to the foregoing, 1st, ophthalmoscopic changes in that structure; 2d, probably turbid vitreous, and 3d, increased tension of the eyeball.

If the iris is involved, we have sensible modifications, 1st, of its shape, the ciliary margin being drawn back, thus making the anterior chamber abnormally deep, and 2d, impaired mobility.

Three classes of traumatic injuries are productive of cyclitis and its concomitants, namely: 1st, blows upon the ciliary region of the eyeball; 2d, penetrating wounds that reach into the ciliary body; and 3d, foreign bodies that penetrate either chamber or the vitreous body.

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When from any cause whatever we have symptoms such as we have named, pointing unmistakably to cyclitis, especially when we have this symptom, great tenderness to pressure over the ciliary region, we have cause for the gravest apprehension, and should exercise the greatest care over such cases.

To any form of iritis cyclitic complications add great gravity, and we may safely affirm that, when we have a well-recognized case of irido-cyclitis, we have in hand conditions not second in importance to any disease with which the eye may be affected.

But it is well to bear in mind that pains referable to the ciliary body, with great tenderness of the parts, are not always indicative of cyclitis. Asthenopia is quite frequently the cause of severe ciliary irritation. Frontal cephalalgias also often produce great soreness of the eyeballs. These conditions are generally easily distinguishable from true irido-cyclitis by their variableness, the pain and tenderness soon passing wholly away, or are greatly modified by rest.

An especially dangerous form of irido-cyclitis is to be found in cases like this. One eye has been lost, we mean the sight of it, by injury to the ball. This has been done either by direct injury to the ciliary body by a penetrating wound, or some foreign body has passed into the vitreous chamber, and lodging therein has set up a destructive inflammation.

Now sooner or later, following upon these accidents and the ruin they have caused, comes an inflammation of the other eyeball. This latter inflammation is generally an irido-cyclitis, and is better known as sympathetic ophthalmia.

This formidable inflammation is more easily prevented than cured, namely, by an early enucleation of the eye first affected.

I desire to close by giving you a case of special interest that came under my care some few months ago.

Edward H., æt. 19, four years ago, while riding in the cars, was struck in the face by a large stone that came crashing through the window, and filling his left eye with glass. Thirty or forty pieces were removed from the lids and conjunctival surfaces. The laceration and bleeding were considerable, and a mild traumatic inflammation ensued which kindly terminated in the course of a couple of weeks.

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For a whole year after he experienced no trouble with the injured eye, but at the end of that time he began to have and continued to have for three years recurrent attacks of pain with all the symptoms peculiar to cyclitis. A few weeks would sometimes intervene with little disturbance of any sort, but use of the eye was sure to be followed by relapses lasting for weeks. During this time he was under care of three well-known oculists, who each gave the utmost attention to an examination of the case. Oblique illumination revealed, as indeed did a casual observation also, a hazy condition of the lower fourth of the cornea; there was in fact at this point an almost constant condition of pannus. At times of exacerbation there was impaired mobility of the iris; at other times the iris was normal.

My own observations lasted through several months, and were accompanied by complete failure to prevent the recurring attack.

A grand council of war was held consisting of doctors and specialists, and the latter were solidly arrayed against the proposition I had made of enucleating the offending organ. Yet no one could offer a reasonable explanation of the cause of the trouble, or promise certain relief in any other mode.

Briefly, then, my advice prevailed, and the eye was taken out some three months ago. Mark the result: The eye was no sooner out and turned upside down than a comparatively large piece of glass was found and distinctly seen lying loosely in the anterior chamber. It was about one centimetre long and two or three millimetres broad, irregular and jagged in form. During all this time it had completely hid itself behind the clouded part of the cornea. For one year it was carried there with impunity, and for three years after without setting up plastic or marked serous inflammation.

It had successfully escaped detection by its transparency in part and partly by the shield which the clouded part of the cornea threw over it. It is extremely doubtful if the glass could have been withdrawn with safety had it been discovered.

Suffice it to say, in conclusion, the patient in a few days recovered from the operation, and was thoroughly happy in being relieved of what seemed an age of suffering.

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XXIV.

PLASTIC IRITIS.

By W. A. Phillips, M.D., Cleveland, O.

Of the various forms of disease attacking the human eye and imperilling its function, plastic iritis is one of the most common, and if neglected or badly treated is one of the most serious. In fine, it may be emphatically said that none of the affections peculiar to the eye which may terminate in such a manner as permanently to impair the integrity of the organ, will so frequently result disastrously to vision if improperly managed, or, other things being equal, will so often terminate favorably if rightly treated. It is likely also that this affection is more frequently the occasion of error in diagnosis by physicians in general practice, than all other ocular diseases combined. The result is that a line of treatment is commonly adopted which directly increases the trouble by encouraging the inflammatory action, and thus hastening the complications peculiar to the disease. The reason why plastic iritis wrongly dealt with or neglected will almost invariably terminate more or less unfavorably, is not because of any peculiarity of the inflammation in respect of its severity or nature, but rather because of the anatomical relation which the iris sustains to the surrounding structures, namely, the lens, ciliary body and choroid. Thus it is to be borne in mind that the pupillary margin of the iris lies in immediate contact with the capsule of the lens, while at its periphery it is directly continuous with and substantially a part of the ciliary body and the choroid coat. Now, plastic inflammation is characterized by a

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swelling of the cellular elements of the iris, its substance becomes infiltrated with an adhesive serous or gelatinous material, while in severe cases neoplastic growths, known as papillary excrescences, granulations and gummy tumors, occur on and near the margin of the pupil. The swelling produced by the infiltration occasions contraction of the pupil, thus bringing a larger extent of the posterior surface of the iris in close contact with the lens capsule. In consequence of the adhesive nature of the exuded material, more or less firm union soon occurs, and a complication is at once established which is more threatening in its subsequent effects than the inflammatory action producing it. In a word, adhesions between the iris and the lens (synechiæ), in view of their frequency and danger, are the complications most to be dreaded in the management of iritis. The dangers arising from adhesions are: 1st. By their maintaining contraction and immobility of the pupil, exudation of lymph into the pupillary space is favored and irremediable blindness may result. 2d. The constant dragging exerted on the delicate iris tissues in the effort of the pupil regularly to dilate and contract, induces irritation and finally inflammation of the deeper structures of the globe with which the iris is immediately connected.

The symptoms presented by an attack of iritis by which it may be early recognized are: 1st. Contraction and sluggishness of the pupil. 2d. Loss of the lustre of the iris. 3d. Impairment of vision. 4th. Marked injection of the bloodvessels immediately around the margin of the cornea. These symptoms are invariably present in every case of inflammation of the iris. To these may be added, 5th. Pain, which is commonly referred to the brow or side of the head; and 6th. Sensitiveness to light (photophobia). The former (5th) is exceedingly variable, being entirely absent in some cases, but in others so intense as to preclude all possibility of sleep or rest. The photophobia when severe and persistent indicates an extension of the inflammation to the ciliary body or to the choroid or to both, and the eye may be lost in consequence of suppuration and atrophy. Still other symptoms, characterized by exudations of lymph, pus, and the formation of neoplastic growths are often present, and though they do not necessarily complicate the case so as to render it hope-

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less of recovery, yet they are liable to protract it and to demand the most skilled attendance in order to conduct the inflammation to a favorable result. Thus there may occur, 7th. Papillary excrescences, which are situated on and near the pupillary margin and somewhat in the substance of the iris, and quickly glue the iris and lens together. 8th. Granulations, which principally differ from the papillary growths in the freedom of their development and in their location, being for the most part on the anterior surface of the iris. 9th. Gummy tumors. These are identical in their histological character with the gummy tumors produced by syphilis, and often cover a very large portion of the iris. These several growths may gradually become absorbed without leaving any permanently bad effects, but they are more likely to occasion firm adhesions and to destroy in some measure, if not entirely, the integrity of the iris. 10th. The formation of pus in the anterior chamber (hypopion) is of common occurrence, but does not indicate, unless the quantity be very large, a condition to excite particular alarm, as its absorption, as a rule, is readily accomplished.

The greatest care is to be exercised in the diagnosis of the disease, especially in distinguishing it from conjunctivitis. Unfortunately redness of the eyeball, with or without redness and swelling of the lids, is too frequently looked upon as signifying an attack of inflammation of the conjunctiva, and accordingly astringents are at once brought to the rescue, only to increase the trouble to be relieved if the iris be the seat of inflammation. In view of the fact that injection of the bloodvessels is really the only symptom that can be said to be in common as regards iritis and conjunctivitis, the first three characteristic symptoms above given, namely, immobility of pupil, impaired lustre and discoloration of iris, and impaired vision, being entirely absent in conjunctivitis, it seems wholly inexcusable that the blunder of mistaking one for the other should be made. If any further aid than the symptoms given be required, a few drops of a one or two grain solution of sulphate of atropin to the ounce of water may be instilled into the eye. If the pupil dilates regularly and fully in the course of ten or fifteen minutes, it is safe to conclude that no iritis exists. This is a harmless procedure

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at best, as it will not increase a conjunctival trouble, and, if it be inflammation of the iris, it is a step in the right direction. If general practitioners can be made to appreciate the importance of a correct diagnosis as regards iritis, oculists will be called upon far less frequently to give advice in hopeless cases which might have resulted well had the early treatment been appropriate. Haziness of the cornea from inflammatory action may somewhat obscure the iris, and give it the appearance of having lost its brilliancy, and the ciliary irritation may cause some contraction of the pupil, and thus the corneal trouble somewhat simulate an attack of iritis, which is the only other affection, aside from conjunctivitis, with which iritis is likely to be confounded. Careful inspection of the cornea, and testing the mobility of the iris, will, however, be quite enough to determine whether or not the iris be the structure affected, or whether they are both implicated.

As already stated, the treatment of iritis involves something more than merely controlling the inflammatory action, for, knowing that an adhesion of the iris to the lens may exhibit itself within twelve hours from the beginning of an attack, and knowing that internal remedies are powerless to arrest the inflammation of the iris in so short a time, it is apparent that some means if possible must be adopted to so change the anatomical relations of the iris and lens that the exudation may not bind these structures together. Hence the treatment of this affection is mechanical as well as medical, and in the great majority of cases the mechanical treatment is the more important of the two, as internal remedies cannot remove plastic deposits to the extent that a change in the position of the iris can prevent their doing harm. The first thing to be done, then, is to use a solution of atropin (two to four grains to the ounce of water), by putting a couple of drops in the outer angle of the eye every ten minutes, for half an hour, when an interval of two hours should elapse. If the pupil is not dilated at the expiration of that time, the instillations should be repeated. The use of the atropin should be continued as above, if required, for two or three days, or less frequently if the pupil be widely dilated. Local applications, consisting of cloths wrung out of hot water, may be applied to the brow and temple,

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especially if the pain be at all severe. Water applications should not, however, be continued more than three or four hours at a time, when an interval of a couple of hours should occur, the eye being kept warm in the meantime with hot cotton batting. Bathing the brow with the tincture of aconite diluted one-half with warm water, will aid materially in controlling the pain. The eye should be kept constantly covered and warm, and every precaution must be taken to prevent the patient from taking cold.

Whether syphilis or cold be the cause of the inflammation, Mercurius is the remedy to be used internally. It is to be regarded as vastly superior to all other drugs combined in the treatment of this affection. The biniodide, from the second to the fourth trituration, may be used every two or four hours, according to the age and constitution of the patient and the severity of the attack. Constitutional symptoms may arise demanding some other remedy or remedies, as Acon., Gels., Kali jod., etc., but for the iritis alone there is nothing superior to a persistent use of Mercurius, aided by the local measures mentioned.

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XXV.

IRITIS SEROSA.

By George S. Norton, M.D., New York.

(Synonyms, Keratitis punctata, Keratitis postica, Descemetitis, Hydromeningitis, Aquo-capsulitis, etc.)

There is great confusion prevalent throughout our text-books in the description of this "much-named" affection of the eye. Upon reading different so-called authorities one obtains an entirely different picture of the disease, until at last he is in a quandary as to what to believe and what to disbelieve. There is no doubt much truth in all their statements, only certain authors have observed and described different phases and varieties of the same trouble, and drawn different conclusions regarding the origin and course.

In our discussion of this subject we shall consider two distinct forms in order to reconcile the various statements with each other and with our own experience. To the first we will give the name "Serous iritis," and to the second "Descemetitis."

Both forms of inflammation are comparatively rare, especially Descemetitis. Serous iritis is usually found complicated with some inflammatory process of the deeper structures, particularly chronic irido-choroiditis, though isolated cases occasionally arise. Descemetitis, upon the other hand, is not so commonly observed as a result of severe intraocular disease, except when found in the later stages of serous iritis.

Symptomatology.—Serous iritis is especially characterized by a *hypersecretion of the aqueous humor,* more or less cloudy and

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turbid, with flakes of lymph floating about in it, *which readily attach themselves to the posterior surface of the cornea,* or settle to the bottom of the anterior chamber. In this respect it differs from other varieties of iritis, in which the inflammatory product is chiefly plastic and is localized on the iris and lens capsule. These deposits on the posterior surface of the cornea generally take a pyramidal shape, the base of the triangle being at the periphery and the apex at the centre. By changing the position of the head the triangle will also change, thus proving that the deposit is on the posterior surface of the cornea, and that the triangle form is due to gravity. Though this is true early in the disease, yet in the later stages the punctate spots become permanent, not changing their position on any movement of the head, as will be readily understood when we come to consider the pathological changes which occur as the disease advances.

The increase in the secretion usually causes a perceptible increase of tension, as may be shown by the tonometer, and probably a direct compression of the ciliary nerves, as a result of which the pupil becomes moderately dilated and sluggish, as in simple glaucoma. The anterior chamber is also often visibly deeper from the same cause. This hypersecretion of the aqueous has a great tendency to extend to the vitreous humor, particularly if the inflammation involves the ciliary body and choroid, resulting in a glaucomatous condition of the eye.

The iris is only slightly discolored. The photophobia, lachrymation, pain and pericorneal injection are very moderate, as a general rule far less than in a case of plastic iritis of equal intensity.

If the inflammation is severe and of long duration, a true Descemetitis results, the opacities seeming to lie deep in the membrane of Descemet, and even extending into the cornea propria (Keratitis parenchymatosa). Mingled with these points of exudation, pigment deposits have been observed, caused by the wandering pigment-cells of the uvea passing through the loosened epithelial layers (Hirschler, *Archiv für Ophthalmologie*, bd. 18, 1, p. 186). It is well to simply call attention to the implication of the cornea (Keratitis parenchymatosa) and the accompanying sclerosis. This sclerosis is usually localized to the lower part of

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the cornea and in a triangular form, showing that the beginning of the disease was in the deposits from serous iritis.

Let us now consider the nature and cause of these deposits in the anterior chamber. The inflammatory process involves chiefly the iris and that portion of the membrane of Descemet connected with the iris, though it may extend to that which lines the cornea. The morbid product, differing from other varieties of iritis, assumes a serous character, increasing the amount of aqueous and giving off into the anterior chamber an amorphous fibrinous exudation which adheres to the posterior surface of the cornea. If this exudation remains long in contact with the cornea, it becomes mixed with cell-elements which originate from the irritated membrane of Descemet, thus forming true papillary proliferations, as shown under the microscope. From time to time these become scraped off, fall into the anterior chamber and usually become quickly absorbed. The serous iritis must be severe and long-lasting for the above participation of the membrane of Descemet, and in such cases the cornea becomes involved in the later stages by the inflammation and exudation extending into the cornea propria, with at times pigment-cells, as already described. Still later sclerosis of the cornea is found.

The following microscopical examination of an eye by Schweigger, in his *Handbuch der Augenheilkunde*, illustrates very well the changes which take place in serous iritis combined with true Descemetitis. The eye was enucleated during the course of irido-choroiditis. Upon the epithelial surface of the membrane of Descemet numerous grayish-white prominences were found, so loosely united that a drop of water was sufficient to detach them. These particles consisted of detritus masses with single fat-cells, while the spot to which they were attached to the membrane of Descemet was proliferated with destruction of the true cell-elements. Similar changes were also present in the region of these spots, and in the further expansion of the epithelial layer, extending even to the cell-elements lying on the ligamentum pectinatum.

Descemetitis.—The symptoms of serous iritis already given, hypersecretion of the aqueous humor, dilatation of the pupil, ciliary injection, pain, photophobia and lachrymation, are also

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usually present in Descemetitis, though they are not generally as intense. The cloudiness of the aqueous is absent or only present in a slight degree (except in the later stages), so that the flaky deposits are not seen on the posterior surface of the cornea, as in the preceding form of inflammation. We will, however, find *on the posterior surface of the cornea, more or less numerous little points of a gray or dirty white color*, that do not change their position on any movement of the head, and do not assume a triangular form, but are permanent, scattered here and there, more often at the centre of the cornea, over the pupil. These points may extend into the parenchyma of the cornea, and may result in sclerosis of that tissue, as has been already noted in serous iritis. The tension may become increased and glaucomatous symptoms supervene, though not as commonly as in the preceding form of inflammation.

This form of inflammation, *per se*, is, as we have already stated, very rarely seen, being more commonly observed as a result of serous iritis. This would be expected when we consider how very rarely inflammatory conditions of hyaloid membranes occur; but that the membrane of Descemet, like other hyaloid membranes, is capable of inflammation, is no longer a matter of doubt, especially in the cell layer belonging to it.

In Descemetitis the inflammatory process is confined chiefly to the posterior elastic lamina of the cornea and its epithelial covering, the iris only being involved to a certain extent owing to the continuation of this corneal layer into the iris as the ligamentum pectinatum. The first change noticed is a cloudiness of the posterior epithelial layer of the cornea, which may be general, though more commonly is developed in scattered masses, causing those changes which show as punctate grayish-white deposits. These, nevertheless, are not true deposits from exudation into the anterior chamber, as in serous iritis, but are due to changes in the epithelium of the membrane of Descemet, which may deliquesce into pus or be thrown off into the aqueous by progressive proliferation, thus clouding this humor. Soon the membrane of Descemet itself becomes implicated (though we are not prepared to state positively that it is a true inflammatory process), and later the posterior layers of the parenchyma of the cornea, though

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generally in circumscribed spots and not diffusely. Early in the progress of the disease, after the epithelium has become involved, a mild iritis may be detected of a serous character, which causes any hypersecretion of the aqueous humor and attendant symptoms that may be present. The changes occurring in Descemetitis when secondary to serous iritis have already been fully described.

Etiology.—When not dependent upon some deep intraocular trouble, as is generally the case (under which circumstances serous iritis is usually observed as the first complication, and is then followed by Descemetitis), the causes are obscure, though it is more commonly ascribed to some general constitutional dyscrasia, as syphilis, hereditary or acquired, scrofula, chlorosis, etc. One case of true Descemetitis of both eyes which we have lately had under treatment occurred in a very nervous woman apparently in good health, and followed a paralysis of the right facial nerve and partial nervous deafness of both ears. Knapp also reports in *Archives of Ophthalmology and Otology*, that Swanzy had had a case of "serous iritis" and parenchymatous keratitis, complicated with "Menière's disease," with no history of syphilis, though recovery took place under anti-syphilitic treatment. This question therefore arises: Is there any connection between nervous deafness and either of these forms of inflammation? Further investigation must decide this point.

Women seem to be more subject to these affections than men, and children are less liable than either.

Either affection is almost always obstinate to treatment and long lasting. It has a great tendency to recur, and periodical aggravations are frequent. Entire recovery may take place, with complete or partial resorption of the exudation, or the opaque spots may remain permanent, especially if the cornea propria has been involved.

The prognosis depends chiefly upon the cause and the amount of disease in the deeper structures.

Treatment.—The chief reliance of the old school is placed in atropin and the use of diaphoretic, diuretic and purgative remedies for the general dyscrasia. Atropin in our experience is not generally required, unless the inflammation of the iris as-

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sumes a greater degree of intensity than usual; we should not, however, hesitate to use it if the inflammatory symptoms were very prominent, the tendency to posterior synechiæ present in any degree, or if the movement of the iris seemed to aggravate the trouble.

In the course of either disease, we must watch very carefully for any increase of tension. If the eyeball does become harder and inflammatory symptoms are present, we would advise paracentesis of the cornea, repeating it as often as necessary; but if the inflammatory symptoms have disappeared and the tension is above normal, iridectomy is to be preferred. Some authors advise iridectomy even while the inflammation is present, though the majority oppose its employment at this time. Del Monte* reports two cases operated during the inflammatory stage; in both the inflammation and exudation were increased by the operation. Such has also been the experience of other prominent oculists.

Hygienic and dietetic measures are of the first importance. A good, plain, nourishing diet should be advised, with abstinence from all stimulants, and plenty of exercise in the open air. A change of air and scene, either to the mountains or to the seaside, as seems best adapted to the general condition, should be recommended. If there is considerable photophobia, blue or smoke glasses may be allowed when in the bright light.

Though the measures already spoken of are of great value under the circumstances mentioned, yet our chief dependence must be placed upon internal medication, and the following will be the remedies more often suggested to our minds.

Aconite may be indicated in the first stage, if the inflammatory symptoms are very pronounced, with much heat in the eyes and head, or if resulting from exposure in the cold air; but we do not consider it commonly useful.

Apis mel. produces serous effusions and cures them; its favorable results in corneal inflammations are also sometimes striking. We would, therefore, suggest its use in serous iritis or Descemetitis, if any œdematous condition of the lids or conjunctiva is

* Jahrsbericht Ophthalmol., 1871.

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present, with photophobia, lachrymation and burning-stinging pains, and particularly if dropsical affections accompany the general dyscrasia, with drowsiness and thirstlessness.

Arsenicum is of the first importance in either form of inflammation, and is especially called for when it is of a subacute character, as is commonly the case, with marked hypersecretion of the aqueous humor. Non-inflammatory œdematous swelling of the lids or conjunctiva, with burning pains in the eyes and periodical aggravation, especially at night, would particularly point to its use. The general cachexia, anæmic hyperæsthesia, thirst, with serous effusions, etc., are all of great value in determining our choice. The following case reported by Schlosser as cured with Arsen. will illustrate the character of inflammation to which it is adapted:

Conjunctiva not hyperæmic but with œdematous swelling of its outer segment; iris discolored and reacts sluggishly; posterior synechiæ; some exudation into the pupil; white punctate spots on the membrane of Descemet, with burning pain in the eye and upper part of the orbit, worse at night and accompanied by copious secretion of tears.

Aurum is especially useful after overdosing with Mercury or Potash, and when the trouble can be traced to syphilis, either hereditary or acquired. It is very rarely indicated after the first stages, but very commonly after the inflammation has extended to the parenchyma of the cornea, so that the spots of exudation are scattered here and there through it. The depressed mental condition of the patient, and bone-pains, not only around the eye but in other portions of the body, are usually found.

Bryonia is another remedy very commonly indicated in true serous iritis, if the hypersecretion of the aqueous humor is a prominent symptom, with occasional sharp cutting pains through the eye and head, pressing-out pains in the eyeballs, soreness of the eyeballs to touch, and general aggravation of the symptoms on any movement of the eye.

Conium has been used with good results in Descemetitis accompanied by great photophobia.

Gelseminum is, in our experience, the most important and most

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commonly indicated remedy in our Materia Medica for serous inflammations or effusions in the eye. Its beneficial results were first remarked in serous choroiditis, and afterwards in serous inflammation of the remainder of the uveal tract, and even in detachment of the retina, in which it has effected some brilliant cures. It is not particularly a remedy for true Descemetitis unless a decided hypersecretion of the aqueous is present. Its chief sphere of action is to be found when the inflammation of the iris assumes a serous character, even extending to the ciliary body and choroid, with prominent increase in one or both of the fluids of the eye, accompanying haziness, dilatation of the pupil, various pains in and around the eye, photophobia, lachrymation, and above all a tendency to increase of tension. As far as known it seems to be better adapted to the early stages of the inflammation, and when the symptoms are more acute in character, than in the later stages and more chronic forms, though further experience must decide this point.

Hepar sulph., according to Payr, "is the main remedy for keratitis punctata." If we understand by keratitis punctata the second division we have made of serous iritis, Descemetitis, we believe Hepar is valuable, both in accelerating the absorption of any exudation and in controlling any acute inflammatory symptoms of the cornea tending towards ulceration, in which case there would be much photophobia, lachrymation, redness, pain relieved by warmth, etc. Hypopion, if present, would especially point to this drug. In true serous iritis it will not be called for unless the concomitant symptoms and general condition demand its use.

Mercurius may be of service if either form of inflammation can be traced to a syphilitic origin; also if there is considerable pain in the eye and head, always worse at night, though this drug is especially the remedy for plastic iritis and not serous. The preparation of mercury to be given will be decided by concomitant symptoms.

Rhus tox. would be indicated in serous iritis if accompanied by œdema of the lids, great photophobia and profuse lachrymation, though we cannot consider it a common remedy.

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Sulphur has been followed by favorable results in chronic cases dependent upon a scrofulous diathesis, and in hastening the absorption of any corneal exudation. Pains, if present, are of a sharp sticking character.

Other remedies, as the following, may be indicated upon general principles or according to special indications that may arise: Baryta, Bell., Caust., Euph., Kali bichr. and jod., Natrum mur., Phos., Puls., Terebinth. and Thuja.

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XXVI.

GLAUCOMA.

By W. H. Woodyatt, M.D, Chicago.

The study of a disease which is always dangerous to the sight cannot fail to be interesting to the general as well as to the special practitioner. The fact that this disease at times appears in the most insidious manner, destroying vision so gradually and quietly that its presence may hardly be suspected, and at other times works so rapidly and with so great disturbance that its true character may not be recognized until the possibility of recovery no longer exists, only serves to increase its interest and magnify its importance. No one engaged in the practice of medicine can well afford to be ignorant of the symptoms which indicate its presence or of the remedial measures which may arrest it.

But this knowledge implies an intimate acquaintance with current as well as standard literature; implies an acquaintance with opinion and counter-opinion as to etiology, and as to how much or how little may determine the actual presence of the disease; for since the time of Hippocrates to the present, views on these points have been constantly changing. I hope to be able to present some facts only to be found in special literature.

Until the early part of the eighteenth century glaucoma was regarded as a disease of the lens, and was spoken of as green cataract, because of the peculiar bottle-green reflex from the pupil so frequently observed in this disease.

Accompanying symptoms were a dilated and sluggish pupil; a shallow anterior chamber; hazy aqueous humor; a dull and

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anæsthetic cornea; a strong, hard eyeball, and complete loss of sight. We have here a picture of the disease in its complete and hopeless form, and with the ophthalmoscopic picture added of excavation of the optic nerve involving its entire surface, with steep, abrupt edges, pulsating vessels which appear broken as they pass the edge of the nerve, it serves as a very fair description of the disease as we find it to-day. Fortunately we are now often able to detect the disease before it assumes this form, and the apparently good and reasonable explanation of the symptoms which mark its earliest appearance lead us to hope strongly that we are on the verge of the discovery of medicinal agents which will prove all-sufficient in arresting the pathological changes in their incipiency.

The different locations assigned to the disease down through the years are worthy of a brief consideration. The idea that it had its seat in the lens was entertained until 1709, when Brisseau advanced the theory that its true seat was in the vitreous humor. He based his conclusion upon the post-mortem examination of the glaucomatous eye of Bourdelot, the body physician of Louis XIV. In this instance he found the lens transparent but the vitreous humor turbid, and at once declared this humor to be the seat of the trouble. In 1808, Wenzel, having observed some cases in which the media were clear and corresponding to what is now known as glaucoma simplex, or the non-inflammatory variety, gave it as his opinion that the disease originated in the optic nerve and retina; and as early as 1830, the idea was advanced by Canstatt and Sichell, that glaucoma was a species of choroiditis. This point had been reached before the discovery of the ophthalmoscope, and the largely prevalent opinion to-day is the one so strongly maintained and well-defended by the celebrated Graefe, that the disease is inflammatory in character and that the uveal tract is the starting-point.

But also before the introduction of the eye-mirror into ophthalmic practice, Tavignot had stated that he regarded glaucoma as a pathological condition of the ciliary nerves. The note which he sounded at that early date has been taken up by many others since, who, by the aid of such facts as have been revealed to

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intraocular examinations, feel justified in maintaining that glaucoma is a true neurosis.

The occasion for the strong differences of opinion as to the character and seat of glaucoma lies in this, that it appears in two distinct varieties, known generally as the inflammatory and non-inflammatory. Both varieties have symptoms enough in common to establish their identity, and yet they differ decidedly in some respects. The endeavors to harmonize apparent contradictions existing in the two forms find expression in the two opposing theories just mentioned. On the one hand the disease is supposed to be an inflammatory one occurring in the iris, ciliary body or choroid, and from thence giving rise to all the symptoms which may appear; and on the other hand, all the symptoms are considered as explainable only by regarding the affection as a pathological change either of the fifth nerve or the sympathetic.

It is to some observations in connection with the latter or neuropathic theory that attention is particularly directed at this time. This side of the etiological question is especially attractive, because it introduces us to the disease at a very early period of its history, and opens up for us a channel through which our remedies may be applied with more clearness of indication and greater certainty of success. To be able to name a homœopathic remedy and define its sphere of action that will do as much and as certainly for some forms of glaucoma as iridectomy does for the so-called acute inflammatory variety, will be glory, indeed, for the individual and for the school. Assuming, for the moment, that many cases of glaucoma are preceded by facial neuralgia, which itself is part of the glaucomatous disease (and there is not a little evidence to substantiate this view), we have at once opened before us a therapeutic field on which a host of triumphs have already been achieved; we have at once a plan of action mapped out for us, according to which remedies may be selected for individual cases and suited to a variety of surroundings. Assuming further, that Cohnheim is correct in attributing the appearances which are usually regarded as the evidence of acute inflammation to be an alteration in the condition of the walls of the bloodvessels (atheroma), we have before

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us a pathological condition which is under the control of our remedies—remedies whose value has been discovered by means of the symptomatic associations of the pathological change in other parts of the body.

The neuropathists claim that glaucoma has its origin in a neurosis of the secretory nerves of the eye, and that each and all of the symptoms occurring in the progress of the disease can be explained on this theory. To the theory that inflammation is the fundamental process in both glaucoma simplex and glaucoma complicatum some very weighty objections are offered, and even the existence of some symptoms which are very generally accepted as belonging to inflammatory glaucoma is denied. Diffuse opacity of the vitreous humor, for instance, which is very commonly regarded as one of the most important objective symptoms, and thought to be constantly present, is declared to be *always absent*, and the position is assumed that the opacity observed and referred to the vitreous has been and always is in the cornea.

Turbidity of the vitreous and aqueous humors and of the cornea, ciliary injection and pain are the symptoms of glaucomatous inflammation usually given.

The corneal opacity, although recognized, has been considered of minor importance. That the variations in the degree of transparency of the media in cases of glaucoma and the variations in the visual acuteness are directly proportioned to the increase or diminution in the corneal opacity, must appear to some of us at least as a new idea. It is one, however, that is worthy of consideration and study.

Schnabel says: "My investigations have taught me that, in every case of inflammatory glaucoma where it was impossible to examine the fundus on account of the opacity of the media, there existed such a dense opacity of the cornea, that we could not judge of the state of the vitreous body. They have also taught me the following facts: When the opacity of the cornea permitted to some extent an examination of the interior of the eye, there was never found any opacity of the vitreous body. In cases where the cornea was perfectly transparent, there never existed any opacity of the vitreous body."

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Schweigger says: "The diffuse opacity of the cornea is the most apparent and important of the opacities of the different media in cases of inflammatory glaucoma, and it is found early and constantly, while a simultaneous opacity of the vitreous body could never be demonstrated."

This corneal opacity is described as superficial, well defined, of uniform density, extending from the pupillary space toward the periphery, but never occupying the entire cornea. It does not change the epithelium, so that the lustre and reflection of images in the cornea remain unchanged. On this account it may have been overlooked by previous observers.

The opacity appears suddenly, assumes its greatest density rapidly and disappears as suddenly as it came, sometimes occupying two or three hours and again as many weeks, but never passing into the stage of suppuration and seldom leaving any permanent opacity. This condition has unquestionably been present, though unrecognized, in some cases of glaucoma which have been reported where, after the instillation of atropin, the turbid humors have cleared up suddenly so as to permit a distinct view of the fundus.

Spencer Watson reports such a case in the R. L. O. H. Reports, vol. 4, where in twenty minutes the turbidity disappeared, as was observed by several surgeons, though it was again present at the next visit three days later.

This peculiar condition of the cornea is found in some cases where glaucoma is not present, and the subjective symptoms so closely resemble those described by patients suffering with glaucoma that the likeness will be immediately recognized. Indeed, after observing these cases, the question very naturally suggests itself, may not these cases be what has hitherto been known as the intermittent or premonitory stage of glaucoma? In thinking of possible remedies for this difficulty, I was reminded of a case which came under my own care, a man, an opium-eater, who sought relief from a disturbance of his vision which had recently arisen. The letter test showed a vision of $\frac{20}{70}$ when first tried, but after a somewhat prolonged examination only $\frac{20}{200}$. The examination revealed a peculiar turbidity of the humors, which I found difficulty in locating, not being fully sat-

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isfied whether it was in the cornea, aqueous humor or lens, and it appeared to change before my eyes. He was dismissed without treatment and asked to report on the day following, which he did. In the meantime he was to discontinue the opium. The eyes were better and vision improved at the next visit, and he was again dismissed without medicine, but at his next visit the sight had diminished again, and the diminution was attributed to a return to the opium. The patient was not willing to abandon the drug, and after watching the case for a week he passed out of my hands. At that time my attention had not been directed to this peculiar condition of the cornea, but, as I recall it, the possible relation of opium to the condition seems worthy of notice. Periodical dimness of sight, with rainbow colors around the light, whenever they occur, will suggest the necessity of a careful examination of the cornea, and if the peculiar diffuse opacity described is found, the patient should be carefully watched, that the early appearance of glaucomatous symptoms may be detected.

Irregular types of the above-described opacity of the cornea recurring once or several times in patients waiting several days at the clinic for the operation of iridectomy have been observed by Schnabel. Schiess has noticed this peculiar appearance of the cornea, and considered it a diffuse keratitis masking the glaucoma.

A practical question which should be answered here is, Can the cornea present this turbid, opaque appearance without a true inflammatory action? or, in other words, Is not this condition of the cornea an evidence of inflammation?

The question has been answered negatively by clinical experience. Cases of corneal opacity do occur suddenly in a previously healthy cornea on many successive days without injection of the bloodvessels or pain, disappear suddenly, leave no scar and do not pass on to suppuration.

Schnabel makes reply: "I believe that the occurrence of the opacity now under consideration is not due to a pathological accumulation of fixed elements in the cornea, but that it is dependent upon the secretion of a turbid fluid, and taking into consideration the course, which evidently shows a dependence on a disease

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of the nerves, I am forced to regard the periodical opacity of the cornea which we encounter in all the various forms of glaucoma, most frequently in the inflammatory variety, but also in eyes which are not the seat of glaucoma, with or without increase of tension, as a neurosis of the secretory nerves."

By what appears to be well-sustained reasoning, the ciliary injection, pain and tension of the glaucomatous eye are all explained by this theory.*

The only other point to which I desire to refer now is the undoubted relation existing in some cases between neuralgia of the trigeminus and glaucoma.

The observations of Hutchinson, Horner, Wegner and many others have established this point thoroughly.

Not a few cases of facial neuralgia are marked by increased tension of the eyeball and impaired vision, both of which appear and disappear together with the pain in the face and as suddenly.

In many of the cases recorded the attack which was accompanied by the outbreak of the glaucoma, differed in no essentials from those which had gone before, and the eyeball was at no time the seat of the pain, and yet the performance of iridectomy speedily and permanently relieved the pain in the face. This would seem to indicate that the neuralgia was rather the consequence than the cause of the glaucoma, and teaches the very great necessity of examining carefully the vision, the tension of the globe and the condition of the fundus in all cases of facial neuralgia.

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* Its acceptance demands almost a complete revolution of our former conceptions of glaucoma, and as I have said before, enables us to speculate, at least with good foundation, on possible remedies. The disease is so uncommon, comparatively, that the combined experience of clinicians is desired to ascertain which, if any, of our medicines are to be relied upon and to what extent.

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XXVII.

ASTIGMATISM.

By F. H. Foster, M.D., Chicago.

The defect arising from the asymmetry of the dioptric apparatus of the visual organ was first pointed out by Thomas Young as early as the year 1793. He noticed that while observing with relaxed accommodation, his optometer held in a horizontal position, the image of the wire was plain when seven inches from his eye. Held in a vertical position he could carry the instrument to ten inches before any blurring took place. His astigmatism therefore belonged to the compound myopic variety having $\frac{1}{10}$th of myopia in the vertical meridian and $\frac{1}{7}$th of myopia in the horizontal, the astigmatism being nearly $\frac{1}{2}\frac{1}{3}$.

He says he suffered but little inconvenience from it. He considered the defect was due to the irregularity in the substance of the lens. Cory, an optician to whom Young mentioned his observations, had noticed in several instances when concave glasses were held obliquely before the eyes vision was rendered much more distinct, a certain amount of the astigmatism being corrected by this manipulation. To Airy, the British Royal Astronomer, however, belongs the credit of having first worked out a case of this irregular refraction.

He discovered that when reading his left eye appeared of very little use to him; thinking that if practiced separately its function might be restored, he found on covering the right eye that he was unable to see small letters or objects at all. He also speaks of seeing a distant light or star, not as a point but assum-

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ing the form of an ellipse, the long diameter forming an angle of about 35° with the perpendicular. With his concave glasses (the right eye being myopic), what appeared to be a point with the right eye was elongated into a line, having the same direction as the long diameter of the ellipse seen with the left eye. He now commenced a series of experiments which ended in his correcting the myopia in both meridians of his cornea. He found on looking through a pinhole at an illuminated surface, that at three inches from his eye the opening was very much elongated; carried to seven inches the elongation was the same, but at right angles to the former. His first thought was to combine two cylindrical lenses with axes at right angles, but for convenience in grinding and to render the curvatures less, he combined a spherical surface, the radius of its curvature being three and one-half inches, with a cylindrical surface, the radius of its curvature being four and one-half inches, and with this glass he says he could see equally as well as with the other eye. Twenty years later he reports the myopia as having diminished somewhat, though the astigmatism remained the same.

The subject of this paper was not selected in order to speak of the various methods of procedure used in determining the presence or degree of astigmatism, but rather to call attention to myopia of a high degree complicated with astigmatism, where, with proper correction, normal vision has been produced, and the glasses worn with ease, without showing any tendency to increase the refractive difficulty.

The following case will serve to illustrate. Mr. C., æt. 27, has been myopic ever since he can remember, and worn glasses for nearly twenty years. He is a clergyman by profession, and has always used his eyes a good deal in study.

The short sight does not seem to be inherited, as neither father nor mother have any trouble with their eyes, being able to see well at a distance. He has one sister whom he thinks may be a trifle nearsighted. Two years before he was first seen he met with quite a serious accident, falling through a bridge and striking the left malar bone. The bone was fractured and driven backwards, destroying a portion of the floor of the orbit. The eye was not injured. At the time of his first visit he was suffer-

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ing from paralysis of the left external rectus, with marked internal squint. Sight was very much impaired; with the best glass, a concave four, being only $\frac{2}{7}\frac{0}{0}$. He had no pain in the eyes, but slight photophobia, was troubled a good deal with bright flashes of light, and had a constant annoying diplopia. Both nerves presented the appearance of incipient atrophy. There was an entire absence of the usual pinkish color of the disks, their surface having a dirty muddy hue; the outlines were obscured and indistinct. There was staphyloma posticum, such as might have been expected in such a high degree of myopia. The retinal vessels, both arteries and veins, were small. He was put upon Strychnia, $\frac{1}{6}\frac{1}{4}$ grain twice a day, the dose to be gradually increased. The paralysis began to improve almost immediately, as indicated by the approximation nearer and nearer of the double images, and a weaker prism being required to merge them into one. After one month of treatment it became imperatively necessary that the patient should go to New York for some length of time. As he was improving, and expressed a dislike to changing physicians when doing well, he was told to continue the Strychnia (of which he was now taking $\frac{1}{3}\frac{1}{2}$ grain three times a day), but advised to seek relief at once if he got any worse. Three months passed before he was seen again, when he presented himself as being well. He had taken the medicine some two months after leaving before the diplopia entirely disappeared; after that he discontinued it. Glasses were then tried, when it was found $-3^s \supset 6\ 0^c$ made V $\frac{2}{2}\frac{0}{0}$. The combination was prescribed for him to wear continually. His delight was unbounded when he first procured the glasses; to use his own words, he says, "I see now as I never have seen before." A year has passed and his eyes continue well.

V remains $\frac{2}{2}\frac{0}{0}$, and he has an accommodation for No. $1\frac{1}{2}$ Snellen from twenty to three inches. He often spends from eight to ten hours a day reading and writing with perfect ease. The nerves, though not of the rosy color we are accustomed to call normal, are clear in their outline and have lost the murky appearance, while the retinal vessels are normal in their calibre.

The ultimate results in this case were decidedly satisfactory. The apparently serious nature of the optic nerve trouble, with its

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consequent impaired sight, the paralysis of the ocular muscle, all improved under the medicinal treatment, the paralysis being entirely relieved, the optic nerves losing their dirty muddy color, the retinal vessels assuming their normal relative calibre, and vision improving to nearly $\frac{20}{20}$; this with the glasses he had been accustomed to wear, a concave four. His refractive difficulty was then for the first time properly corrected. It certainly is by no means common for so high a degree of myopia to get vision anything like $\frac{20}{20}$ with the best neutralizing glass. Now is this due to the so-called diminishing effect of the strong concave glass, whereby the object is rendered too small to be perceived, or to the intraocular changes which almost invariably accompany such high degrees of myopia? Myopia uncomplicated is simply a refractive anomaly, in which there exists the inability to focus parallel rays of light upon the percipient layer of the retina. A myopic eye *should* be able to perceive much smaller objects than an emmetropic, and this we find not infrequently to be the case. I have in mind now a gentleman with a myopia of one-third, who can distinguish with his unaided eye a species of animal parasite that is absolutely impossible for an emmetrope to perceive without a strong convex glass. An idea can be obtained of the near vision a myopic eye possesses by placing a strong convex lens before an emmetropic eye. An artificial myopia is thereby produced corresponding in degree to the focal length of the glass used. Now when this induced myopia is corrected by the neutralizing concave glass, neither distant nor near objects suffer any diminution in size. True, the optical condition in these two cases is not exactly identical, yet the experiment may serve to illustrate how much the neutralizing glass has to do with the idea of size of objects. Again, a myope will very quickly cry out that everything is so much smaller if too strong a glass is used, as he then gets the effect of an over-neutralizing lens. On the other side high degrees of myopia are very seldom seen without extensive coexisting changes in the fundus.

The posterior staphyloma, which is almost never absent, frequently has its apex at the macula; the choroidal atrophy, so well marked by the irregularly shaped white crescents around

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the optic disk, is often far more extensive than indicated by these spots. This general thinning, which is marked by an unusual degree of clearness with which the choroidal circulation can be seen, sometimes by a streaked appearance of the fundus as if one part were more atrophied than another, must interfere with the perceptive faculty of the retina.

It has been demonstrated that perception is lost at that space around the papilla where complete atrophy has taken place, thus rendering the blind spot more extensive. This could hardly be otherwise when we consider the very intimate connection existing between the basilar layer of the retina and the inner pigment layer of the choroid, which indeed by some authors is described as one of the retinal layers. This then being the case that perception is *lost* at these white crescentic patches, it will not be difficult to understand how it may be impaired at other portions of the staphyloma where only partial atrophy has taken place.

When we remember their pathological conditions, such as disseminated choroiditis, floating opacities in a fluid vitreous, posterior polar cataract, partial or entire detachment of the retina, that so frequently accompany high grades of myopia, it would seem as if there was cause sufficient to account for the impaired sight without taking into consideration the strong concave glasses. The question has been raised before, what part astigmatism played in myopia, whether its presence did not tend to act as a constant and exciting cause for increasing the short sight.

This does not appear to be unreasonable. Very high degrees of myopia are seldom free from astigmatism. It is admitted that anything which causes the patient to assume a stooping position, or to bring the work very near the eyes, thereby necessitating undue convergence, tends to increase the myopia. Bad illumination may do this. Now if astigmatism is present in a high degree there will be an impairment of sight for small objects, consequently, if reading, a constant tendency to bring the book close to the face; the cilary muscle is also called upon to perform just double the amount of work required of it in an emmetropic or simply myopic eye, a separate act of accommodation being necessary for the horizontal and vertical parts of the

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letter. This being the case irrespective of the degree of astigmatism, I believe that a certain class of cases of myopia where changes in the fundus are not so extensive, but with vision quite defective, may be vastly improved by carefully adjusted cylinders.

I recollect one case in particular that is to the point, a young lady with a myopia of $\frac{1}{10}$ with vision only $\frac{20}{70}$. She wore no glasses for reading, but could only use her eyes for a short time without a tired feeling, though they never became absolutely painful. Cylinders had been repeatedly tried without any satisfactory results. Atropin was finally resorted to, when it was found that the combination —8^{s} ⊃ 18^{c} made V $\frac{20}{20}$. The glasses were prescribed, and she wears them constantly, the weariness being entirely relieved.

The question now arises whether in the higher grades of myopia or myopic astigmatism full correction should be made, and I approach the subject with extreme caution, recognizing fully the existing prejudice to prescribing strong glasses.

Admitting that astigmatism may be one of the active causes in the promotion of myopia, *it* must be corrected if we wish to remove that cause.

Full correction of the myopia usually gives the best degree of sight, and may produce emmetropic vision or $\frac{20}{20}$.

Partial correction still leaves a certain amount of impairment for distance, which may lead to a straining or prolongation of the visual act in order to recognize the object.

If in one case even, vision is made normal, it proves that the impaired sight incidental to these high grades of myopia is not due to the strong concave glasses; but if the myopia is stationary and there are no extensive changes in the fundus they may be prescribed with safety. Since treating the above case one other has been seen with a myopia of $\frac{1}{31/2}$; this glass combined with $\frac{1}{38}$^{c} makes V $\frac{20}{20}$.

Dr. Thompson, of Philadelphia, has reported a number of these cases of high degrees of myopia, many complicated with astigmatism, where normal vision was produced by full correction, and the glasses were worn without difficulty.

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XXVIII.

PROGRESSIVE MYOPIA IN THE SCHOOLS, AND ITS PREVENTION.

By C. Th. Liebold, M.D., New York.

In all branches and in all directions of medical science, the greatest and most praiseworthy efforts are made to detect and to destroy the roots of diseases. In our branch, the prevention of progressive myopia as caused in the schools has already called many examinations and reports into existence; and it has been shown that the disease progresses at a rate perfectly commensurate with the requirements of modern study, the modern newspaper and other necessary and unneccessary matters adding their share.

If any one nation should imagine itself exempt from like causes and like effects, that illusion will be rapidly dispelled by closer investigation; and although the short report of the examination of one school for girls which I present here is no conclusive evidence, and will have to be corroborated by other examinations, any one treating eyes will know that he can contribute his share.

Our school ought not to remain in the rear in any real progressive work, and therefore I procured the permission of the authorities, and induced Dr. Boynton, Assistant Surgeon, and Dr. Wanstall, House Surgeon of the Ophthalmic Hospital, to examine the eyes of the scholars of one school—Girls' Grammar, No. 50, of this city—comprising nearly six hundred individuals. Next winter similar examinations of as many of the same children as can be found then and there will be made again, and so, if possible,

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for every year, until, as I certainly hope it may, legal will take the place of voluntary service. Certainly no child ought to be compelled, forced, nay, even allowed to ruin its most precious gift unquestioned and unwarned.

Such of you as have made the diseases of the eyes a specialty are certainly acquainted with the different reports in this direction, and all I will do is to request each of you to take some interest in this work and manifest it by helping to advance it.

"An ounce of prevention is better than a pound of cure" is an old trite adage, but nowhere is it more true than here; and I think the societies especially are or should be the field where these general and broad questions should be debated, and regular plans laid down for united efforts.

I hope sincerely that my wish, expressed at the meeting of the New York State Society, to hear from co-laborers in this field, will meet with better success from you than from that body, where all were silent.

Girls' Grammar School, No. 50, New York, Winter of 1876–7.

Cases in which vision was not perfect and could not be improved with glasses, in which are included cases of atrophy of choroid and nerve, hyperæmia of the fundus, macula corneæ, etc., etc., under this classification,	23
Emmetropia,	59
Astigmatismus cum H.,	5
Myopia,	53
Hyperopia,	459
Total number examined,	599

The ages of the scholars range from 8 to 18 years.

Schedule of Examination.

No. Date.
Name.
Age.
Nativity.
" father.
" mother.
Complexion.
Color of skin.
Consanguinity of parents.

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Vision ($\frac{20}{20}$ or less).
" with glasses ($\frac{20}{20}$ or less).
Near vision { punct. prox. } in inches.
{ " remot. } "
Refraction { Emmetropic. Myopic. Hyperopic.
Amblyopia.
Asthenopia musc.
Ophthalmoscopic examination and remarks.

Number of Hyperopes and the Degree.

Degree.	Number.
+ $\frac{1}{60}$,	30 scholars.
+ $\frac{1}{50}$,	40 "
+ $\frac{1}{40}$,	57 "
+ $\frac{1}{36}$,	91 "
+ $\frac{1}{30}$,	106 "
+ $\frac{1}{24}$,	64 "
+ $\frac{1}{20}$,	37 "
+ $\frac{1}{18}$,	18 "
+ $\frac{1}{16}$,	7 "
+ $\frac{1}{14}$,	11 "
+ $\frac{1}{11}$,	1 "
+ $\frac{1}{10}$,	2 "
Total,	459

Number of Myopes and the Degree.

Degree.	Number.
— $\frac{1}{50}$,	7 scholars.
— $\frac{1}{40}$,	3 "
— $\frac{1}{36}$,	2 "
— $\frac{1}{30}$,	3 "
— $\frac{1}{24}$,	6 "
— $\frac{1}{20}$,	3 "
— $\frac{1}{18}$,	6 "
— $\frac{1}{16}$,	2 "
— $\frac{1}{14}$,	1 "
— $\frac{1}{12}$,	2 "
— $\frac{1}{10}$,	2 "
— $\frac{1}{9}$,	3 "
— $\frac{1}{8}$,	5 "
— $\frac{1}{7}$,	3 "
— $\frac{1}{6}$,	2 "
— 5,	2 "
— $4\frac{1}{2}$,	1 "
Total,	53

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NUMBER OF HYPEROPES BETWEEN THE YEARS

8—10,	28
10—12,	153
12—14,	192
14—16,	74
16—18,	12
Total,	459

Nativity of Parents.

Irish,	175
German,	95
American,	80
English,	15
Mixed and others,	94
Total,	459

NUMBER OF MYOPES BETWEEN THE YEARS

8—10,	2
10—12,	13
12—14,	17
14—16,	20
16—18,	1
Total,	53

Nativity of Parents.

Irish,	21
German,	4
American,	10
English,	4
Mixed and others,	14
Total,	53

NUMBER OF EMMETROPES BETWEEN THE YEARS

8—10,	8
10—12,	15
12—14,	20
14—16,	11
16—18,	5
Total,	59

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Nativity of Parents.

Irish,	18
German,	15
American,	7
English,	2
Mixed and others,	17
Total,	59

SUMMARY.

	Both Parents as far as Ascertained.				Mixed Nationality and others.	Total.
	Irish.	German.	American.	English.		
Hyperopia,	175	95	80	15	94	459
Myopia,	21	4	10	4	14	53
Emmetropia,	18	15	7	2	17	59
	214	114	97	21	125	571
Percentage of myopia.	nearly 10 per cent.	3½ per cent.	nearly 10 per cent.	nearly 20 per cent.	11 per cent.	

Children with defective vision,	23
" " astigmatism,	5
Total,	599

Perhaps this report will astonish many who have thought that nearsightedness was pre-eminently a prerogative of Germans, and especially of German students, who were commiserated upon their condition and explanations sought for it (Angell, *Diseases of the Eye*) in the peculiar type with which their books are printed. By the way, all or nearly all German scientific works are printed with Latin letters. If this report has the effect to stimulate further research it will have done all the good it is expected to do, and with this hope it is respectfully submitted.

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SECTION XI.

REPORT

OF THE

BUREAU OF GYNÆCOLOGY,

J. C. BURGHER, M.D.,	Pittsburg, Pa.
S. R. BECKWITH, M.D.,	Cincinnati.
R. LUDLAM, M.D.,	Chicago.
S. S. LUNGREN, M.D.,	Toledo, O.
O. N. MANN, M.D.,	Evanston, Ill.
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C. ORMES, M.D.,	Jamestown, N.Y.
H. F. HUNT, M.D.,	Camden, N. J.
J. H. WOODBURY, M.D.,	Boston.
O. S. RUNNELS, M.D.,	Indianapolis.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 3.

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VIII.

PELVIC CELLULITIS.

By S. R. Beckwith, M.D., Cincinnati, O.

The above-named disease was formerly understood and classified as one of the diseases of the pelvis. It was then forgotten and no more mention was made of it during the eighteenth century; and not until 1844 was there any printed description of the disease, at which time it was described as "intrapelvic phlegmonous abscess," and "abscess of the uterine appendages;" but no clear description was ever given of the disease until Sir James Y. Simpson wrote his article in 1865, which first appeared in the *London Lancet*, entitled "Pelvic Cellulitis; its Termination and Treatment."

Definition.—The disease is now understood to be an inflammation of the cellular tissue of the pelvis and connective tissue of the pelvic portion of the peritoneum. It is of frequent occurrence, affecting both men and women, though most commonly occurring after parturition, or injuries to the uterus. Writers have used the titles "pelvic abscess," "pelvic peritonitis," "parametritis," etc.

We have given the name adopted by Dr. Simpson, viz., "pelvic cellulitis," but describe the disease as confined to the "alveolar tissue of the pelvis," claiming that when the inflammation occurs in the peritoneum of the pelvis, it is a "peritonitis" and not a "cellulitis."

Anatomy.—Having been appointed by the chairman of the Bureau of Gynæcology to report on the disease under con-

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sideration, I made during the last college sessions more careful dissections of the cellular tissue of the pelvis, in males and females, than ever before, and found that it surrounds the pelvic muscles and iliac fascia, extending into the lower strait of the pelvis, mingling with adipose tissue filling up the space around the rectum, and is distributed to the muscles of the perineum and urethra, the prostate gland and base of the bladder in the male. In the female, besides being distributed to the muscles, fascia and rectum, it occupies the space between the bladder and uterus, vagina and rectum, and also surrounds the ovaries and extremities of the Fallopian tubes. In the last-named locality it is very abundant, and mixed with adipose.

Etiology.—In men the inflammation is caused by injuries of the perineum, operation for stone, stricture of the urethra, etc. In women by suppressed menstruation from cold, injury to the vagina or mucous surface of the uterus, miscarriage, or disease of the ovaries extending to the cellular tissue, etc.

Seat of the Inflammation.—The pelvis, as has been stated, is filled, in all spaces otherwise unoccupied, by cellular tissue. It is in this tissue that the inflammation commences, and whenever the peritoneum or any of its folds become inflamed during the progress of the disease, it will be found that the peritonitis was secondary, or the inflammation was produced from contiguous tissue. In other words, we recognize cellulitis as a disease as distinct from peritonitis as pleurisy is from pneumonia.

Cellulitis is not accompanied by the same acute inflammation, pain and tenderness as peritonitis. Inflammation of the peritoneum terminates in resolution, effusion or gangrene, while cellular inflammation terminates in resolution, suppuration, deposits of coagulable lymph or sloughing. It is then important to make a differentiation in these diseases, to enable us to form a correct diagnosis. This also refers to treatment, as one class of remedies are more useful in controlling inflammation of one tissue than another, as, for example, Hepar sulph. will be found beneficial in subacute cellulitis to prevent suppuration, but who would give it in any form of peritonitis?

Symptoms.—The symptoms of cellulitis are usually ushered in by rigors and chills. After the operation of lithotomy or

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for stricture of the urethra, the appearance of chills is an almost certain indication of the approach of cellulitis. The same may be said in acute ovaritis, abortions or injuries to the uterus. After the chill, the ordinary symptoms of inflammation follow, except that there is but little pain if the disease is confined to the cellular tissue, but if the peritoneum is affected the pain is severe and the fever active. Even in puerperal pelvic cellulitis there is only slight febrility or pain. In some cases the patient makes no complaint after her confinement, except of a feeling of fulness of the pelvis, general weakness, loss of appetite, and for several months her symptoms remain, and with but little change. Many a case of slow recovery after labor, when the cause of the trouble was not understood, has been due to chronic inflammation of the cellular tissue.

It will be impossible to give even a limited synopsis of the symptoms of cellulitis which arise from the different causes. We will only give a tabular statement of the most prominent symptoms arising in each case.

1. Cellulitis from cold during menstruation.
    1. Pain along Poupart's ligament, extending to the ovary.
    2. Subacute inflammation.
    3. A tumor appearing in the iliac fossa within four or five days after the commencement of the disease.
    4. The swelling or tumor may suppurate or end in absorption of the lymphous deposit.

    Differentiation. { Ovarian tumors. / Iliac abscesses. / Iliolitis.

2. Cellulitis after parturition or abortion.
    1. Subacute inflammation.
    2. Pain constant, though not severe.
    3. Little or no swelling.
    4. Great prostration.
    5. Loss of appetite.
    6. Liable to terminate in suppuration.
    7. The system may become septicæmic.
    8. Extension of inflammation to peritoneum, etc.

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3. Cellulitis from injury.
    1. Asthenic inflammation, coming on with severe chills and rigors.
    2. Great debility.
    3. Strong tendency to sloughing of the parts and purulent effusion.

In all forms of cellulitis we find debility, slow and feeble pulse, absence of severe pain, loss of appetite and great prostration in the beginning of the disease, the symptoms remaining for a considerable time unchanged. These and like symptoms are the characteristic indications of cellulitis.

Treatment.—We do not propose to give detailed indications for each remedy, simply mentioning the principal remedies found most useful for the cure of the disease.

Fortunately, even if a large swelling has occurred, recovery often takes place without suppuration. Equally fortunate is the fact that when pus is formed and spontaneously evacuated sinuses safely convey the pus through some part to the surface, and thus the patient's life is saved. The most common outlets are the bladder, uterus, rectum, and the formation of external sinuses. In all instances, when the presence of pus can be detected, no time should be lost in the use of the exploring needle or aspirator.

In the beginning *Aconite* is the remedy, when the disease arises from a cold, or when there is any pressure on the crural nerve or its branches.

Belladonna.—Local shivering and heat in the parts, distension, pain in the back and hips, or when there is concomitant pain extending to the genitals.

The particular indication for *Bryonia* is sensitiveness to contact or motion, and when the swelling has commenced and is tender to the touch.

Arnica after injuries, and when there is little or no swelling. In the case of swelling and leucorrhœa, *Conium* is preferable.

Other remedies that we use are Baryta carb., Kali carb., Secale cor., Mercurius, etc.

The hygienic treatment is important. The patient should be

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kept absolutely quiet and the parts constantly covered with hot fomentations; the bowels should be kept freely open by injections, and this is the more important if the disease is in the left ilium.

But few cases fully recover for months or even years. There is a predisposition to a renewal of the attack from the same exciting cause, and I have never seen a fully developed case but it was followed by neuralgic pains for a long time, and occasional tenderness.

In conclusion, I wish to add that I do not believe there is any special similarity between "cellulitis" and "pelvic peritonitis," except that the two diseases are both found in the same locality, *i. e.*, the pelvis.

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IX.

DOUBLE OVARIOTOMY.

By S. S. Lungren, M.D., Toledo, O.

This paper presents a clinical report of two cases of double ovariotomy in which compound methods of treating the pedicle were used in connection with drainage from the peritoneal cavity. It is not presented as containing new features in the method of operating, for these have been ably advocated by Kœberle, Peaslee and Sims in various publications upon the subject, but merely as a contribution to the record of cases, successful and unsuccessful, which should alike be recorded, so that our statistical information may be placed upon a reliable basis, and that method be selected which affords the greatest hope of success.

While the success of these cases has not been greater than the average of collected cases heretofore published of double ovariotomy, there were some features developed during the treatment which convinced me that when the adhesions are very extensive and ligatures have been used to arrest hæmorrhage, drainage should be resorted to.

Case I.—I was consulted March 18th, 1877, by Mrs. K., American, aged 33; married; resides in St. Louis, Mo.; sent to me by Professor Franklin, as she wished the treatment to be conducted in Toledo, where her family resided. She has had two living children and two miscarriages at three and seven months respectively. The last occurred July 1st, 1876. Her general appearance was that presented by one suffering from chronic disease. Complexion sallow; temperament nervo-bilious.

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No emaciation except the characteristic wasting of the neck and upper part of the chest and shoulders. Decided "facies ovariana;" temperature 101°; pulse 112; urine alkaline in reaction and slightly albuminous, which last, I think, was produced by pressure on the renal veins.

The first discovery of the tumor was made four years ago, during the first miscarriage; it was then no larger than a goose egg. There was no inconvenience from the tumor until three years ago, when she felt pain in the left iliac region, extending down the left thigh, which continued at intervals until the present time. At that time she noticed a slight enlargement of the abdomen upon the left side, which has gradually extended over to the right and upward to the epigastrium. She measured at this time, around the abdomen, over the umbilicus, 36 inches; from the right anterior superior spine of ilium to umbilicus, 10¼ inches; left anterior superior spine of ilium to umbilicus, 9½ inches; abdomen very tense, with decided fluctuation upon percussion; uterus a little enlarged; fundus deflected to the right side; tumor felt in front of the uterus; depth of uterine cavity, 3¼ inches; menstruation perfectly regular, so that she could tell me the exact day the menses would return, and the time for an operation could be fixed with certainty.

The pain complained of in the left side, extending down the thigh, became almost unbearable; she could neither sit, stand nor lie down but for a few minutes at a time, certainly not half an hour, according to her statement; and after exhausting all the remedies I could think of, and having the aid and counsel of my friend, Dr. Goodwin, an operation for the removal of the tumor was advised, to which the patient most willingly consented. She had been urging me for two weeks previously to relieve her in that manner.

To determine beyond a doubt the exact nature of the tumor, a very fine trocar of an aspirator was introduced, and some two ounces of a thick chocolate-colored fluid removed; specific gravity 1040; entirely coagulable by heat; so solid that it could not be shaken from the test-tube; under the microscope plates of cholesterin and the "ovarian corpuscle" were very abundant.

The operation for the removal of the tumor was made April

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25th, 1877, at 12½ P.M. Dr. Gaylord gave the ether. Drs. Goodwin, Parmelee and Rousey assisted the operator. An incision of five inches in length was made through the integuments down to the linea alba. That being divided, the peritoneum was exposed and divided upon a director, and the cyst brought into view. Its surface was darker colored than usual, and was covered with a large number of veins ramifying over it. Passing my hand around the cyst, it was found attached by firm adhesions to the omentum, to the extent of four inches. These adhesions were traversed by large vessels, which seemed to nourish the tumor. Introducing the trocar of Spencer Wells, about twenty pounds of thick fluid of a dark chocolate color was evacuated. The pedicle was long and twisted upon itself. The retardation of the circulation from that cause gave the whole tumor a red and congested appearance. The vessels in the omental attachments being very large, two carbolized silk ligatures were used to tie them, including a portion of the omentum.

Placing Atlee's clamp upon the pedicle, the cyst was removed. Searching for the other ovary, it was found to contain several cysts and to be much enlarged. It was decided to remove that also. This pedicle was tied with carbolized silk ligatures. An opening was now made through the recto-vaginal space behind the uterus by a long trocar, through the canula of which a fenestrated drainage-tube of pure rubber, about fourteen inches in length, was drawn by a double silver wire attached to its upper extremity. This was held in position near the top of the uterus by carrying the wires through the lower angle of the wound and extending one on each side for several inches upon the abdominal surface. The wound was closed with silver wire for the deep sutures, including the peritoneum. Silk was used to unite the integuments. The operation was completed in thirty-five minutes. She reacted well; her skin was warm and slightly moist; a considerable amount of bloody serum passed away from the peritoneal cavity through the drainage-tube during the first twenty-four hours (about six ounces); this was reduced the second day to about four ounces; the quantity was lessened each day until the sixth, when no more fluid passing, the tube was removed without pain or inconvenience. After

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removal a hard mass could be felt about the site of the tube, like that which occurs in pelvic cellulitis, and I think had it remained longer considerable inflammation would, perhaps, have been excited by its presence. It seemed to serve a good purpose by draining away what otherwise would have been a source of septicæmia while it remained, and was removed seemingly at the right time.

After the operation there was considerable febrile reaction. Aconite and Arnica were given alternately every hour for the first twenty-four hours; afterwards, Arsenicum, Bryonia, etc., to meet the indications. No Morphine was given at any time during the treatment.

The pulse ranged from 110 to 130 for several days; temperature 101° to 103⅘°, and I feared a fatal result. Notwithstanding the high rate of pulse and temperature she made a good recovery, and in three months after the operation was able to sit up, and is now in good health.

CASE II.—Mrs. Sara B., a native of England, had been residing in South Toledo. She was a widow aged sixty-three, and the mother of ten children. She consulted me April 17th, 1877, for an enlargement of the abdomen, attended with great difficulty of breathing, and the formation in and eructation from the stomach of large quantities of gas. She ascribed the enlargement to excessive accumulation of "wind on the stomach." She had been treated for dyspepsia for some years previously. Her appearance was, spare in person, clear complexion and light hair. The tumor was tilted up in front. She measured around the abdomen, at the umbilical level, 40½ inches; from ensiform cartilage to umbilicus, 9½ inches; from umbilicus to symphysis pubis, 6½ inches; from right anterior superior spine of ilium to the umbilicus, 10½ inches; from left ditto, 9½ inches. There was but little mobility of tumor, and parietal and anterior adhesions were suspected. It could be raised considerably without drawing the uterus with it, and it was thought to have a long pedicle. The cavity of the uterus was normal as to length, and there was considerable mobility of that organ, with a deviation to the right side. The secretion of urine was normal in quantity,

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with an alkaline reaction and slight deposit of mucus upon standing for a few hours. Specific gravity, 1020. Appetite good, tongue clean and no unusual thirst. Her sleep was much disturbed by a feeling of oppression of breathing, and she was obliged to sit up in bed until she could rid herself of the great accumulation of gas. She had nausea frequently when eating. Her pulse was 88; temperature 99°. The first discovery of the tumor was nine years ago. It had increased very rapidly in the last six months. The diagnosis was, single cyst, with long pedicle and anterior and parietal adhesion. Her distress was so great that she was quite anxious to have it removed. The danger of the operation was fully explained to her, with the hope, as her case seemed a good one for operation, that she would be restored to health and to her family. With a fine aspirator trocar some two ounces of the fluid of the tumor was removed, of a muddy lemon color, specific gravity 1030, entirely coagulable by heat, so that it could not be shaken from the test-tube. Under the microscope the plates of cholesterin and the "ovarian glomeruli" or "gorged granules" were very abundant. These latter I have always found in the fluid withdrawn from every ovarian tumor that I have examined, and think quite characteristic of disease of that organ. In a case that came under my observation, where a suppurating cyst of the ovary burst into the bladder, carrying away a portion of the wall of that organ, I found in the discharged pus immense numbers of these same "glomeruli."

Some inflammatory disturbance was excited by the puncture. The pulse rose to 94, temperature to 101°, for a few days, and then subsided to the normal standard.

The operation for the removal of the tumor was performed May 10th, 1877, in the presence of Drs. Goodwin, Gaylord and Trutton. In dividing the abdominal parietes there was great difficulty in distinguishing the parietal and visceral layers of the peritoneum, as they were closely adherent, while the thickened omentum bulged through and entirely occluded the incision. The opening was enlarged upward to the extent of six inches, and introducing a finger I was enabled to find an opening between the two layers; introducing the hand it was found that rather firm adhesion existed between the omentum and the

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tumor, afterward estimated as of over two hundred square inches of surface; adhesion also existed between the tumor and the colon. These were separated as far as possible at the time, and the trocar of Spencer Wells was used to puncture the cyst. As it was slowly withdrawn a number of smaller cysts, containing from an ounce to a pint of fluid, were discovered attached to the larger cyst. The pedicle was small, the tumor being nourished chiefly by the omental vessels. The large cyst was attached to the outer edge of the left ovary; the smaller cysts seemed to be developed from the hood ligament. Numerous cysts in different stages of development were found in the right ovary, which was removed also. Both pedicles were tied with a double ligature of carbolized silk, the ligature cut off closely to the knots, and the pedicle cut away about three-quarters of an inch from the ligatures, and allowed to drop back into the pelvic cavity in the normal situation. The omentum was found to be still bleeding from several points. Six fine silk ligatures were thrown around the bleeding vessels, including a portion of the omentum, and this and the ligatures were cut off as closely as possible. An opening was made with a long trocar through the vagina into the cul-de-sac of Douglass, and through the canula a drainage-tube was introduced, as in the case previously detailed. The wound in the abdomen was closed with eight wire sutures, the lower four of which were of silver, the upper of iron with a thin film of tin coated upon the surface. The operation lasted one hour and a half. The patient did not react well. The tongue and mouth became very dry; the pulse rose to 100 immediately; temperature 101°; desire for cold drinks; vomiting constantly; complaining of some pain along the line of incision; great feeling of prostration. Arsenicum alb. 3 was given every hour. The patient passed a restless night, but was easier the next day. During the first twenty-four hours, six large napkins were saturated with bloody serum drained from the abdominal cavity. No food was retained the second day, and four ounces of mutton tea were given per rectum every four to six hours. At 8 P.M. of second day, temperature 103°. Pulse 120, 9 A.M. Third day, pulse 104, temperature 103°, with much tympanitis and constant belching of gas from the stomach. Carbonic acid water given

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frequently, with relief. 9 P.M., pulse 112, temperature 102⅝°, tongue very dry and red at the edges, coated in centre. Aconite and Verat. viride. Fourth day, 9 A.M., pulse 106, temperature 101°. Cannot take any food except per rectum. Much tympanitis. Gave five grains of Sulphocarbolate of sodium dissolved in each injection of mutton tea. 4 P.M., pulse 122, temperature 102⅛°. Abdomen very much distended with gas. Arsenicum 12, every hour; some hysterical symptoms were prominently developed. 10 P.M., pulse 132, temperature 103°. Wants ice all the time; continue Arsenicum. Fifth day, 7 A.M., pulse 136, temperature 102⅜°; complexion a little jaundiced. Tongue very dry; case doubtful. 5 P.M., pulse 120, temperature 102⅛°. 10.20 P.M., pulse 122, temperature 103°. Sixth day, 8 A.M., pulse 130, temperature 103°. Looks exhausted; complains of cold in the side and stomach; says the injections are lying cold within her. Takes about two ounces of milk every two hours; does not vomit; feels hopeful. 10 P.M., pulse 128, temperature 103⅛°; ordered brandy and milk to be given. Seventh day, 7 A.M., pulse 112, temperature 102½°. Does not look so well; mind wanders a little; removed all the sutures; no pus visible around them; abdominal wound finely united. The drainage-tube was removed the fourth day, as it had ceased draining, and no fluid could be withdrawn by suction with a syringe. Signs of septicæmia being now present, the opening made for drainage was enlarged, and a flexible male catheter, No. 12, was introduced some five inches and turned in all directions to discover, if possible, any decomposing fluid within the abdomen; a syringe was used at this time also. No fluid was withdrawn. The signs of septicæmia continued, and although she continued to take food freely, her pulse rose to 140, her temperature to 106°, and she died exhausted at 9 P.M. on the eighth day, 184 hours after the operation. I was permitted to make a post-mortem examination of the body, which was done one hour after death, before there was chance of exudation of serum within the peritoneal cavity. Had I waited longer it would have been difficult to determine whether, in case serum had been found, it was of ante or post-mortem origin. An incision was made on each side through the integuments, reaching from the eighth rib

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to the crest of the ilium, then extending along Poupart's ligament on both sides to the extent of three inches. A semicircular incision across the epigastrium connected the upper ends; upon turning back this flap the omentum was found firmly attached to the parietal wall. Pus to the amount of two or three drachms was found under the site of the uppermost silver wire suture, but shut off entirely from the peritoneal cavity. Union, with this exception, was perfect along the line of incision. At the point where the omentum was ligated, some fetid pus was found, and but little attempt at separation had taken place. Turning back the omentum, some coils of intestine were found adherent to its inner surface, and in separating them some very fetid gas escaped. It was thought at first that some portion of the intestine had been wounded, but it was found soon after to come from a cavity inclosing the ligated pedicle, bounded by convolutions of the small intestine, the hood ligament and the side of the pelvis. The condition of the pedicle was gangrenous, of a black color, and this same condition extended behind the ligatures, and was continued upon the folds of peritoneum up to and upon the upper side and fundus of the uterus. There was also about half an ounce of extremely fetid pus surrounding the pedicle of the tumor, and half that quantity, together with the same gangrenous condition, was found in the cavity inclosing the pedicle of the right ovary. There was no communication whatever from either cavity with Douglass's space. I am convinced from the experience obtained in these two cases that the draining away of bloody serum soon after the operation obviates in a great measure the danger of early septicæmic poisoning, while retaining the tube too long irritates by its presence, and causes plastic exudation to be thrown out, surrounding it entirely and interfering materially with its usefulness. The unfortunate occurrence of gangrene in this case produced a fatal result. The exact seat of the decomposing products was unknown, otherwise the use of antiseptic injections through the opening might have contributed to her recovery.

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X.

RHEUMATISM OF THE WOMB AND METASTASIS TO THE BRAIN.

By C. F. Ormes, M.D., Jamestown, N. Y.

Rheumatism of the womb may arise from such general causes as produce rheumatism elsewhere, as exposure to cold and wet, inadequate clothing, constitutional tendency to rheumatic affection, etc. This seeming tendency or diathesis chiefly exists more frequently in the strong, the young and the active, although the disease may attack persons of every age and habit. The young are principally its victims. Both sexes are alike subject to rheumatism. Women more frequently escape from it, owing perhaps to their less robust constitutions and their being less exposed to the exciting causes, and their tendency to be attacked by it is known to be increased by interruption of the menstrual discharge; hence women between the ages of forty and fifty frequently suffer from it.

This disease exhibits some well-marked peculiarities by which it can be easily recognized. The most prominent symptoms are pain, or a distressing sensation, which involves the whole or a part of the womb. Its severity varies from a simple feeling of heaviness to the most painful dragging sensation. When the disease is situated in the top or base of the womb the pain is mostly felt about the umbilicus; it is increased by pressure, by the contractions of the abdominal walls and sometimes even by the weight of the bedclothes, and the patient is unable to bear any movement whatever. If situated lower, there is a dragging sensation from the loins toward the lower part of the bowels,

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thighs, external genital organs and back, and along the ligaments of the womb. When the lower portion or neck of the womb participates in the affection, the seat of it can be detected by vaginal exploration, which usually gives rise to the most acute suffering.

Like all rheumatic pains, those of the womb are wandering, sometimes passing rapidly from one part of the organ to another. Often they disappear at once and pass to some other part of the body.

Rheumatic inflammation has its seat in fibrous tissues and fibrous membranes. Effusion of lymph into the surrounding tissues is a cause of the swelling. The exudation is sometimes composed of fibrin and pus-globules. The periosteum, pericardium, pleura and diaphragm, and even the sclerotic coat of the eye are not exempt.

The uterus, largely composed of fibrous tissue, is not infrequently the location of rheumatic inflammation, and when the patient has suffered from pains and swelling of knees, shoulders and other large joints, as well as the smaller joints having been previously affected, there follows in some instances a rheumatic dysmenorrhœa, attended with a large flow of lymph from the uterus and vagina, at first attended with great heat. The adhesiveness of the discharge is such that the walls of the vagina almost seem as though imperfectly glued together.

The lymph, when poured into the internal cavity of the organ as the disease advances, is frequently attended by a free, brownish, watery discharge, composed of decomposed lymph or fibrin and minute blood-corpuscles, and this may continue for an indefinite period, or until the specific inflammation runs its course, or the disease is transferred to or assimilates with some important vital organ, as the dura mater or other membranes of the brain, where the effusion of lymph, and the consequent pressure, produce symptoms analogous to approaching paralysis, but not absolute paralysis.

The effusion of lymph upon the brain, the lymph being a more elastic fluid than blood and not so readily coagulable and more readily absorbed, would produce symptoms analogous to those of a clot of blood upon the brain, without the extreme symp-

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toms; consequently an effusion of lymph upon the brain could be longer endured than a coagulum of blood without fatal consequences; and while the symptoms may not be entirely dissimilar in their course and duration, they are not so in their final result.

The following history will illustrate this:

Miss A., aged 48; nervous, bilious temperament; well-developed head, large intellect; body well developed and rather muscular; had suffered from occasional rheumatic inflammation of arms, back and lower extremities, mostly affecting the large joints, after exposure to cold, or damp or sudden changes of temperature. After suffering from apparently a slight indisposition for a few days, she was taken with chills, pain in uterine region, soreness and tenderness on pressure, pain about navel, wandering pains through hips and loins, frequent inclination to urinate, with heat, bowels constipated, neck of uterus swollen and very sensitive to the touch, great vaginal heat, with acrid, slimy discharge.

The above symptoms continued for nearly two weeks, when all the symptoms became ameliorated and convalescence progressed favorably; the uterine symptoms were apparently entirely relieved, and she passed a few days of ease, only to be aroused from it by severe rigor, more resembling a suppressed rigor than chill; pain of head, deep in brain, increasing in intensity, with a sensation as though she should become insane; great internal pressure, as though the head would split; at times a partial loss of consciousness; great fear of being paralyzed; sensation as though the body and limbs were partially paralyzed, less in arms than in legs; entire absence of uterine suffering.

The above symptoms continued for nearly two weeks, when all the symptoms assumed a more malignant form. Head suffering intensely, sometimes drawn back into the pillow, mostly drawn forward, with chin into breast; teeth firmly clenched for hours; eyes closed; pupils dilated; loss of speech and deglutition; tongue apparently paralyzed; pulse from 100 to 120, soon dropping down to 58 or 60; respiration slow and labored; urine nearly suppressed, and involuntary passages both of urine and fæces; pressure over the uterus or touch gave no response of

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pain or of suffering; rigidity of muscles of arms and legs at times, but not continuous, and flexion apparently not painful.

During this semi-unconscious state there were at times a deep snoring respiration, assimilating the stertorous breathing of apoplexia, usually preceded by a flushed face and blowing respiration.

The above symptoms continued for nearly six weeks, with slight remissions of the acute suffering, when a gradual convalescence commenced, the mind still continuing considerably demoralized.

With relief of the symptoms came a free flow of urine, subsequently followed by a watery brown discharge from the uterus, which is now hypertrophied, with inflammation of the cervical canal; the discharge from the uterus is not so frequent, but acrid, and is probably decomposed lymph.

The mental symptoms, though greatly improved, are not entirely easy; there is still dementia and a decided mental aberration. During this state of mental depression she had quite a distinct recollection of most that transpired, and especially of her imaginary hallucinations, most of which were of a very painful nature and related to her future state. This was probably influenced by her attendants often saying in her presence that she could survive but a few days, she being conscious enough to realize their remarks, but not having power of speech she could not express her ideas.

In the investigation of this case, and learning her history, both physical and moral, I found she had long been engaged in teaching, and was matron of an orphan asylum, caring for the poor and friendless in a tripartite labor of head, heart and body. Consequently my diagnosis was rheumatism of the membranes of the brain succeeding rheumatic inflammation of the womb, with lesion of the brain from exudation of lymph from its diseased membranes, which gave character to the paralytic or epileptic form of the disease.

Recuperation commenced when the acute inflammatory symptoms subsided, with consequent absorption of the extravasated fluid; but permanent recovery from the present brain suffering can only be assured when perfect absorption has taken place.

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XI.

ON CLINICAL THERMOMETRY APPLIED TO THE DISEASES OF WOMEN.

By R. Ludlam, M.D., Chicago.

There are two classes of ailments to which women are liable, in the study and treatment of which the proper use of the clinical thermometer is indispensable and invaluable. These classes include the puerperal diseases and those affections which are incident to gynæcological surgery. It will be the especial object of this report to discuss and illustrate the practical application of thermometry to some of these various diseases. Until the present time, however, the non-puerperal and non-surgical cases have not been sufficiently studied to warrant their introduction into a paper of this kind, which must of necessity be very incomplete and fragmentary. Perhaps by another year this branch of the general subject may be brought to the notice of the Institute by some of my colleagues.

I.—Thermometry in the Puerperal Diseases.

Although in the general practice of our profession the diseases of childbed are comparatively rare, still their possible occurrence, their strange complications and their fearful mortality, of which so much has been said and written, invests the subject with an unusual interest. And this interest is increased by the diversity of views which are held regarding the cause and nature of these diseases, the best methods of their treatment and the results obtained. Add to this the peculiar position of the

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patient, as the mother of the family, and also the responsible position of the doctor, and all of these causes combined make one feel as if he must not neglect the study of puerperality with all that it implies and includes.

1. *In puerperal septicæmia* the thermometer is generally of most use within the first ten days after delivery. This is the period in which the absorption of putrescent matters from some part of the utero-vaginal mucous surface is most apt to occur. And the first sign of such an accident will usually be detected by this instrument. Before the nervous system is otherwise implicated, before the pulse has any especial significance, before the lochia are notably diminished, before the sensations of the patient are changed, the alarm is sounded by the clinical thermometer. It is because of its value as a signal of the storm that may follow, that its use should always be practiced at least once a day for the first week of the lying-in.

In the Hahnemann Hospital of Chicago, it is our invariable rule that the record of the temperature of all such patients shall be taken morning and evening regularly until the ninth day.

By this means we *know* if septic matters have entered the route of the circulation and are likely to work mischief; and directly the alarm is given we are on the alert to change these conditions and to counteract them. And the consequence is that with all the risks which our patients have incurred, and the discouraging circumstances under which they have been received into the wards, delivered and treated subsequently, not one has died of this disease in the women's department of our hospital since it was organized, seven years ago.

We have had many cases of incipient septicæmia in our puerperal ward of which Chart No. 1* gives a very accurate idea. In this instance the high range of temperature until the morning of the seventh day, with entire absence of the signs of local inflammation, with delirium and the suppression of the lochia (which Cruveilhier styled the thermometer of the general organism), confirmed the diagnosis, and gave the note of warning in good season.

* The charts alluded to will be found to follow the paper.

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Chart No. 2 (Case 1277) illustrates a class of cases which are very treacherous. This patient, as the curve-lines show, ran along with a temperature at 99° and a pulse at 72, without the least variation, and a perfectly normal manner in other respects, until the evening of the sixth day. Then, suddenly, and without any appreciable cause, the temperature mounted to 102⅗°, and the pulse to 112. And, what was a still more suggestive, not to say suspicious, sign of septic poisoning, this change showed itself in the morning, and was followed by an equally decided dropping down of both curves at evening again. It will also be seen that the reaction of these lines varied as between the temperature and the pulse. The red line rises gradually by the evening of the eighth day to 99⅘°, and then returns and remains at 99°. The blue line records the heart-beat at 90, and afterwards at 72 as before. There can be no question that, without the proper care at this juncture, this woman would have had a severe attack, and perhaps have died of puerperal septicæmia. And it is equally certain that without the thermometer we could not have known what ailed her.

In hospital practice these cases are quite common, but they are not limited to this class of patients, for every puerperal woman is liable to poison herself by auto-infection.

The cervical and vaginal lacerations, and the denuded surface at the utero-placental site, afford the best possible opportunity for inoculation by the absorption of septic materials which are generated within her own body. There is no need of sending her into a hospital or a poorhouse in order that she may have puerperal septicæmia. This being the case, it is incumbent upon us as private practitioners to keep a thermometric record, and to be on the *qui vive*, if only for the sake of recognizing the first signs of this fearful disorder, whether it occurs in the sporadic or in the epidemic form.

My own observations lead me to infer that the date of commencement of the septic symptoms has some significance. If the temperature rises rapidly to what might be called the septic region of the chart within the first four days after delivery (unless the milk is delayed, or the woman already has endometritis), there is less risk of a coincident inflammation in the pelvis or else-

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where than if it comes up later and shows a disposition to continue at a high range. I have seen one exception to this rule, however, in a well-marked case of puerperal ovario-peritonitis.

There is in most cases of puerperal septicæmia such a tendency to complication with peritonitis, phlebitis, and pneumonia especially, that we note the return of the temperature to the proper range, without any symptoms of a concurrent inflammation, with a great deal of satisfaction; for cases of puerperal inflammation that are secondary upon septic infection are usually of a serious character.

In Chart No. 3, which records a private case of puerperal septicæmia that recovered, the septic period extended from the morning of the third to the evening of the twelfth day. There were no complicating lesions of any description; but with one exception, in all that interval, the temperature was not as low as 100°. Meanwhile the pulse played various tricks, and could not be depended upon. But so long as the heat was really not incompatible with life, and, when it fell a degree or two continued to react a little, the prognosis was favorable and the indication was plain.

I have great confidence in the clinical thermometer as a guide in the case of a lying-in woman whose general condition for the first ten days from the date of labor is such as to interfere with the healing of the surfaces that have been torn, contused and traumatically injured during delivery. Under these circumstances we wish to know if our efforts to heal wounds and to prevent the putrid infection which is so imminent are likely to be successful. From time to time we consult the thermometer, and the information that we derive is positive and unmistakable. Indeed by any other means it is not available.

A sudden rise of the temperature to or above 102°, when the lochia are fetid and the lacteal flow is scanty or suppressed, and especially if the patient has a chill, gives unmistakable evidence of septic poisoning, which may or may not be followed by local inflammation. Puerperal septicæmia is usually of an intermittent type, and beside the symptoms already given is very apt to be accompanied by profuse sweats and a considerable delay or tardiness in the involution of the uterus. The repetition of the

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sudden rise of temperature, like the return of the chill, denotes a fresh accession of the disease.

2. *Puerperal pycemia* is not very often met with before the seventh day. When uncomplicated it is characterized by a range of temperature which is not very high. But in most cases of puerperal pyæmia especially there is a mingling of the symptoms which arise from purulent absorption with those of putrid infection. In this respect the pyæmia of the lying-in patient differs from that of the surgical one, and this is why it is a more fatal affection. It is just here that the old analogy between the utero-placental wound after labor and the surface of the stump after an amputation fails.

Chart No. 4, Case 1276, gives the record of an example of septicæmic pyæmia in the hospital ward which culminated in a series of mammary abscesses. Until the end of the second week, when the first abscess was developed, the temperature exceeded 101°. Prior to that time, indeed, it had been for the most part at and above 102°. These abscesses were critical, and convalescence was established when the first one was lanced.

It is doubtless true that in this form of puerperal pyæmia, nature extemporizes an outlet through one or both the breasts more frequently than is generally supposed, and that mischief may be wrought by attempts to "scatter" these abscesses.

If, in consequence of a difficult, a tedious or an instrumental labor, there has been considerable traumatism of the soft parts, and more especially if there has been a rupture of the partitions between the vagina and the bladder or the rectum, or an extensive laceration of the perineum, and pyæmia sets in, the thermometer will notify us of the fact. If a high temperature is recorded during the first week or ten days, it has most probably been caused by septic absorption, but if it continues longer than or makes its advent after the tenth day, the rise is due to purulent infection. The exception to this rule is found in cases of idiopathic puerperal inflammations of one kind or another, where the exalted temperature is dependent upon some local lesion.

Under the foregoing conditions we should watch carefully for such a falling of the temperature as will indicate the formation

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of abscesses either in the joints, the cellular tissue, the mammary glands or in some of the viscera.

3. In *Puerperal Peritonitis.*—The clinical rule is that an attack of this form of peritonitis begins with a chill, the intensity of which bears a pretty close relation to the severity of the disease that is to follow. I am satisfied, however, that in puerperal peritonitis, and more especially as we see it in private practice, there are many exceptions to this rule.

In certain epidemics the chill is lacking, while in others it occurs invariably. Where the initiatory chill is wanting the thermometer will set us aright with respect to the diagnosis, for a slow and progressive rise of the temperature is not apt to be accompanied by a chill. It is the abrupt and rapid elevation of the internal heat that causes rigors and even acute and persistent chills. If the peritonitis is general, it may run its whole course without any chill; but, in its congestive and inflammatory stages, the temperature will always be increased. This sign, together with the character of the local pain, which is a more constant symptom than the chill, will usually enable us to recognize a case of peritonitis in either of its forms.

If, at the same time, the pulse is frequent, the diagnosis is not difficult. For in puerperal peritonitis the pulse is as sure to be accelerated as it is in phthisis pulmonalis, and this acceleration persists from the beginning to the end of this disease. The pulse-curve shows a possible daily variation of from 12 to 15 beats; between the morning and evening it averages 112 to 120, but it is so easily influenced by physical and moral causes, and withal is *so likely to be modified as a sequel of pregnancy*, that it is not a constant or reliable symptom.

Happily for the patient and her physician, the temperature gives a more stable and unvarying sign. It is likely to be quite as high in this disease as it is in puerperal septicæmia, but it is more uniform and not subject to such sudden and extreme vicissitudes. Nor is the diurnal variation often reversed, as in those bad cases of septicæmia in which the temperature is higher in the forenoon than it is at evening.

The relative characters of the pulse and of the temperature in puerperal peritonitis are shown in Chart No. 5, the figures of

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which I have taken from the work of a celebrated author on the *Puerperal Diseases.**

As happened in this case, on the twelfth day a very decided lowering of the temperature signifies a more or less extensive effusion into the peritoneal cavity. This falling is not a fatal sign unless it remains at or below the normal standard, in which case it implies the formation of pelvic or peritoneal abscess. Generally, however, as in pleurisy, a day or so after the effusion has taken place the temperature mounts again, and may even reach its former altitude. The pulse may also be temporarily increased (as shown in this chart) to 140 or more without fatal consequences, for Hervieux's patient recovered. Irregular and extreme alternations of temperature is a bad sign in peritonitis as it is also in pyæmia.

These remarks are also applicable to the regional and circumscribed peritonitis of lying-in women. In many cases the thermometer alone will indicate the gravity of an attack of metro-peritonitis, pelvi-peritonitis or of ovario-peritonitis. And not only will it enable us to judge of the severity of the inflammation, the probable extent of the lesion, the kind, degree and danger of the effusion, but it will also notify us of the fresh accession and encroachments of the disease, which might otherwise creep on insidiously and destroy the life of our patient.

Taking all the risks into account, it is a great satisfaction to have the control of such an attack as is shown in Chart No. 6, Hospital Case 525. This was a case of partial peritonitis due to the propagation of the lesion from the Fallopian tube to the ovary, which is the usual mode of origin of puerperal ovaritis. The temperature (102°–104°), the pulse (120–140), the chill and the local pain made it certain that our patient had an ovarian peritonitis, which it was very desirable to limit, and to relieve as speedily as possible. When the temperature dropped to 100°, on the morning of the seventh day, there was some effusion, but it was not very extensive, nor was the shock of the

* Hervieux, Traité Clinique et Pratique des Maladies Puerpérales, etc., Paris, 1870, p. 127.

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crisis severe, for the curve reacted again the some evening to 102°, and two days later the temperature was nearly normal.

4. In *Puerperal Pneumonia.*—The fact that the pneumonia of lying-in women is likely to be latent and lobular, and that consequently physical exploration may fail at the first to detect it and to enable us to judge of its progress, makes the use of the thermometer all the more necessary and important. Here this instrument serves the same purpose that it does in infantile pneumonia and pleurisy. In case of doubt it satisfies us of the real existence of a local inflammation, which may or may not be connected with morbid conditions of the blood, but which the coincident chest symptoms, more especially the cough, the respiration, and expectoration, if there is any, and the pulse will help us to localize.

Simple idiopathic puerperal pneumonia has about the same range of temperature as the non-puerperal variety. But the regularity of the curve-line in this disease is very apt to be changed by septic states which are acute and transient, and which cause a speedy elevation from 101° or 102° to 105° or more. These spasmodic changes are followed by corresponding depressions, which are abrupt, and insignificant unless they continue to recur or have the effect to induce a series of chills.

The high range of temperature in the first stage of secondary puerperal pneumonia is almost always due to purulent infection. It is a very bad sign, but when it falls to or below the health-line and remains there, after the disease has been in progress for some time, there is very little doubt of pulmonary abscess.

Chart No. 7, Case 2098, gives the record of an example of puerperal pneumonia occurring in our hospital ward. The clinical history of this case has already been published,* but one or two items concerning it are worthy of note.

The disease with which a latent puerperal pneumonia is most likely to be confounded at the outset is peritonitis. This is because of the rapidity of the respiration, which is common. The thermometer will not differentiate between them, but (if the patient has not an acute tuberculosis) the pulse will do so. Puer-

* The United States Medical Investigator, June 1st, 1877, p. 577.

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peral peritonitis, as I have shown in Charts 5 and 6, invariably begins with a frequent pulse. Until the stage of effusion, the pulse-line is for the most part and characteristically above the heat-line. In pneumonia it is not so. The pulse of pneumonia, as shown in this chart, is comparatively low, and remains so until the abscess has begun to develop, when it rises just in proportion as the temperature is lowered. This fact illustrates the advantage of having the curves for the pulse and the temperature on the same chart, where they can be studied together and compared with each other.

If the temperature is taken in the mouth of a patient who is ill with pneumonia or peritonitis, the rapid breathing will interfere with the accuracy of the record.

5. In *Puerperal Angeioleucitis*, or inflammation of the uterine lymphatics, it is marked by a rise of the temperature about the fourth day or perhaps later. This rise is as sudden as that of septicæmia, but it is likely to be accompanied or followed by a more severe chill, after which the temperature does not usually fall to the old level within twenty-four hours, or, indeed, within the next four or five days. The chill, too, repeats itself (which is not true of septicæmia) and the pulse becomes and, until the remission of the disease, remains correspondingly frequent. The local pain, the changed expression of the features and the abdominal distension confirm the diagnosis. When the lesion is limited to the cervix uteri, the "touch" is of the utmost importance. This local form of the disease is most common with primiparæ and with those in whom the cervix has been torn in a very rapid labor or by mischievous manipulation.

If, as very often happens, the case is complicated with peritonitis, the pulse and respiration are accelerated from the outset, and the crisis is announced by a depression of the temperature to or below the normal standard, according to the amount and character of the effusion.

The more frequent and severe the chills, especially at the eighth or tenth day, and the more decided the remission and exacerbation of the pulse, as in intermittent fever, the more certain are we that the inflammation of the lymphatics is complicated with uterine phlebitis. These signs are distinctive and

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may be depended upon; and, moreover, each repetition of the paroxysm denotes an extension of the inflammation along the utero-ovarian veins and precipitates the case towards pyæmia, which really is its most frequent complication.

Chart No. 8, Hospital Case 2174, records the curves in a good example of benign lymphangitis. The patient, a primapara, did well until the morning of the fifth day, when the temperature rose rapidly from 100° to 104⅘° and the pulse from 75 to 105, with tolerably regular fluctuations, but without the paroxysmal intermissions of uterine phlebitis. These curves did not become natural again until the eighteenth day.

6. In *Puerperal Endometritis* the temperature and pulse are both very high, for the disease is always complicated with septicæmia and frequently also with peritonitis.

Chart No. 9, Case 2134, is the only example that I can give from my own experience in which the diagnosis of this disease was confirmed by an autopsy. This patient had been in the women's ward of our hospital for a fortnight prior to her delivery, and was to all appearances in good health; at least she made no complaint, and went through her labor at the clinic without any unusual symptoms. She had had three children before. On the evening of the first day the temperature, which was 100⅘°, began to ascend. In twenty-four hours it had gradually reached 103°, where it remained. But within the first twelve hours the pulse increased from 85 to 120, and very soon reached 135.

On the morning of the second day the patient was seized with the most intractable vomiting. Her symptoms grew worse very rapidly and she died on the evening of the third day. A careful autopsy, made in the presence of the class, showed the lining membrane of the entire womb in a highly inflamed state, with a large gangrenous patch at its cervical portion. The gall-bladder was enlarged to three times its natural size and contained a small handful of biliary calculi, the passage of one or more of which had doubtless caused the obstinate bilious vomiting.

7. In *Puerperal Convulsions*.—It has been claimed that a very practical use can be made of the clinical thermometer in the differential diagnosis of the several forms of puerperal eclampsia.

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Thus, if the temperature falls during the paroxysm, the fit is *uræmic;* if it rises, it is either *apoplectic* or *epileptiform;* while if it is unchanged it is *hysterical.*

But these rules will not always apply. The convulsive types are very apt to be mingled or rather, perhaps, to merge. In simple uræmic cases it may be of the greatest importance to know that this form of blood-poisoning is always characterized by a progressive fall of the temperature. But we must not forget that, as a contingent of puerperality especially, the uræmia may be intermittent; and that for the best of reasons, although it may still exist, the epileptic, the apoplectic or even the hysterical element may predominate and the temperature be increased. So that, in exceptional cases, a patient may have uræmia without the possibility of our being able to detect it by the clinical thermometer.

In the convulsions of lying-in women it is the peculiar combination of these several elements that obscures the diagnosis, the prognosis and the treatment. Ordinarily, if the types are distinct, we may differentiate between them by this means. And it may be very necessary to know which of these attacks is apoplectic or epileptiform and which is either uræmic or hysterical.

II.—Thermometry in Gynæcological Surgery.

The contingencies of manual surgery, as it is applied to the treatment of the diseases of women, are peculiar, and it is to the successful management of them more than to the multiplication of instruments, operations or operators that we must attribute the remarkable results which have been obtained within the last quarter of a century. For here, as in general surgery, it is beginning to be realized that, while anybody can cut, every one cannot cure his patient afterwards.

From a somewhat extended observation I am satisfied that the after-treatment of gynæcological surgery cannot be thoroughly understood and properly practiced without special training, and there is no such drill for this duty as the careful, extended and practical study of the puerperal diseases.

There are especial reasons why the after-treatment of surgical

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operations upon women requires that we should have some extraordinary means of noting the progress of the case, of averting the risks that beset and of foretelling the result, whatever that may be. Even if the operation itself was not made in the dark, the local changes which are consequent upon it and which are carrying the patient forward are shut in from our view. In this class of cases the objective signs upon which the surgeon places his reliance in the amputation of a leg or the excision of an ordinary tumor are not always reliable and sometimes are lacking altogether. In intrauterine and subperitoneal surgery, the after-inspection of the wound is impossible, and we are forced to depend upon the other methods of physical examination.

Now the "touch" may be impracticable or it may deceive us, while the sound and the speculum are, in most cases of the kind, of no value whatever. We may depend measurably upon the pulse, for while in puerperal women the pulse has been so modified by pregnancy and lactation as, in general, to be very unreliable in those who are the subjects of these surgical operations, such modifying influences, if they ever have existed, are supposed to have passed away.

But the pulse, like the subjective sensations of the patient, is more or less influenced by her emotional states and by surrounding circumstances, so that it does not always give a trustworthy or an accurate idea of the case. It is good so far as it goes, but as with either of the probable signs of pregnancy, it will not answer to depend upon it exclusively.

There is good reason for believing that the proper use of the clinical thermometer will help us out of this difficulty. It will give us a clearer and a more intelligent idea of the contingencies which are likely to be sprung. And what is equally important is, that it will notify us in time to do something for our patient. Nor is this all, for it will often tell us whether we are doing the right thing or not. Its information concerning her condition will be absolute and exact. It will not be biassed by the caprice, the fears or even by the sufferings of the patient, by the story of the nurse, or by the hazy intuitions of the doctor.

Now, surely, if our patients are ever in condition where we need to know exactly what it is that we have to deal with, what

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to do and what to leave undone and what is likely to happen to them, it is in the after-treatment of this class of surgical cases.

The operative dexterity already acquired and our resources in the way of instruments leave little to be desired in that branch of the subject. But the surgical therapeutics of the diseases of women is very far from being perfect, and chiefly because of the need of the proper data upon which they must be founded. As a contribution to this department, I beg to submit the following remarks and illustrations of clinical thermometry applied to the after-treatment of ovariotomy. The remaining operations in gynæcological surgery can be considered at another time. The cases submitted herewith are chosen from among those upon which I have operated, and the figures given are accurate in every particular.

1. *Ovariotomy—Multilocular Cyst—Recovery.*

Chart No. 10, Case 93, illustrates several points quite forcibly. The first of these is brought out by a comparison of the temperature and the pulse. The first day's record finds the pulse at 120 directly after the operation, and at 135 in the evening. It does not come down to 120 again until the morning of the fifth day, and to the end of the twelfth day, when the record closes, it is invariably higher than the temperature. On the morning of the third day the temperature reached 104° (when the pulse was 138), but it declined gradually from the evening of the fourth day, and the peritonitis disappeared under the influence of Rhus tox. and Bryonia without any effusion or a crisis of any kind. The case might undoubtedly have been cured without the thermometer, but the record of the treatment could not have been complete without this double chart.

2. *Ovariotomy, with Death from Pelvic Abscess.*

Chart No. 11 records a case in which, but for the rapid pulse and high temperature, no one could have known that it was not progressing favorably. For the first time, two hours before her death, she complained of an aching pain in the right iliac region, but there were no symptoms of diffuse peritonitis; no chill, nor

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sweats, nor crisis, as shown by the thermometer or the pulse. The pelvic adhesions on the right side had been very extensive and vascular, and at this site the autopsy disclosed an abscess of the cellular tissue, which had burst and discharged about a teacupful of pus. The solid part of the ovarian tumor was cancerous.

3. *Ovariotomy, with Cardiac Hypertrophy—Recovery.*

In Case 104, Chart No. 12, the temperature reached 103° on the third evening and then, within twelve hours, dropped to 97°. It soon reached 100°, where it remained for six days, with a reversion of the ordinary diurnal variation, being always higher at evening than in the morning. The pulse-curve was above the other at first, but soon fell to 64, after which it reached to 85, where it continued without the least variation for eight consecutive days.

4. *Ovariotomy by Enucleation—Recovery.*

Case 77, Chart No. 13, is of especial interest, because of the danger of peritonitis from the incision, and also because of the subsequent suppuration within the hull or sac, from which the lining membrane of the cyst had been removed. After the evening of the second day, however, the pulse came down properly, and thenceforth gave us no further anxiety. But until the morning of the fifteenth day, the temperature was at and above 101°. Then it dropped to 100° and reacted again, while the pus was being discharged quite freely from the lower end of the incision, which had been kept open by means of a sponge-tent for the purpose of drainage. This reaction was salutary, for it proved that our patient was not sinking from serous effusion, nor in consequence of the suppurating process. But it was not satisfactory, for during the three days following it was from one to two and a half degrees higher at evening than in the morning. Nearly four years have now passed since the operation was made, and our patient has been in perfect health meanwhile.

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5. *Ovariotomy—Extensive Abdominal Adhesions—Recovery.*

In a case upon which I performed ovariotomy six weeks ago, there were extensive abdominal adhesions, consequent upon repeated attacks of peritonitis. The patient was a slender, delicate woman, whose health had declined so rapidly of late that grave doubts were entertained as to the possibility of her recovery. Perhaps the existing lesions of the peritoneum had induced a tolerance of the operation and exempted her from subsequent peritonitis; but having found about six ounces of unmixed and unmitigated pus at the bottom of the sac after its removal, we were apprehensive of serious sequelæ of some kind.

The thermometric record (Chart No. 14) was taken with the most scrupulous care. Its curves were clear, its diurnal variation perfect and its line of indication plain. Nothing could exceed the satisfaction with which we noted our patient's improvement and the manifest effect of remedies that were given as prophylactic of the diseases incident to her condition. She passed the critical days without perturbation, and literally got well by *degrees*.

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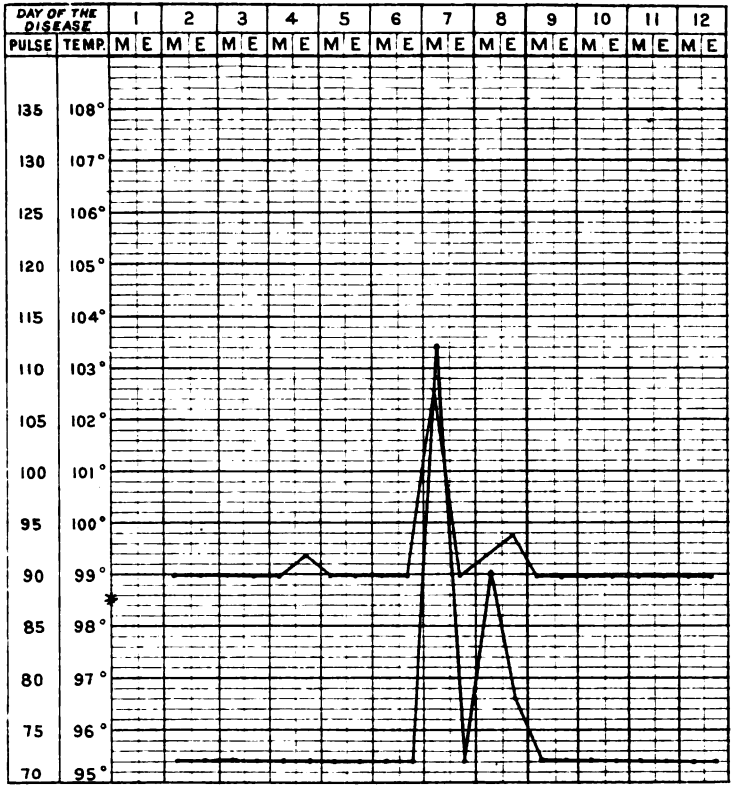

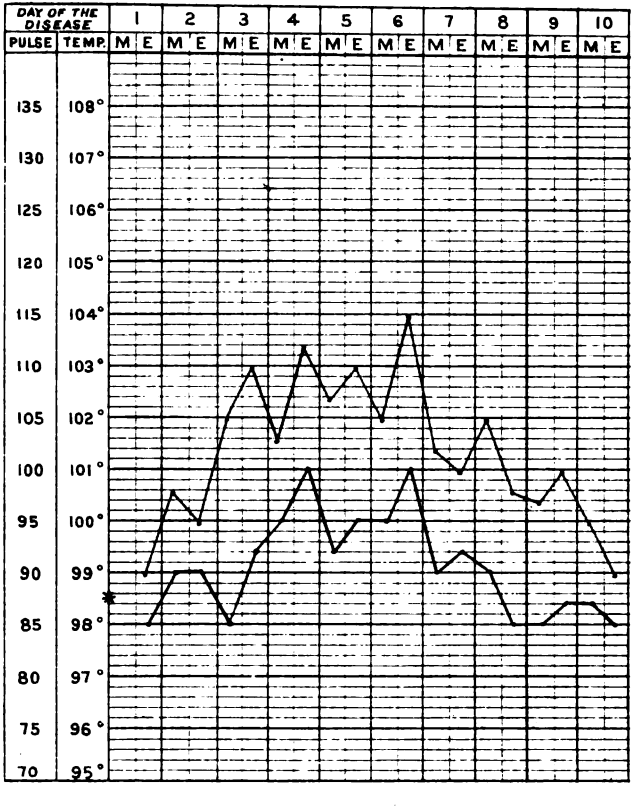

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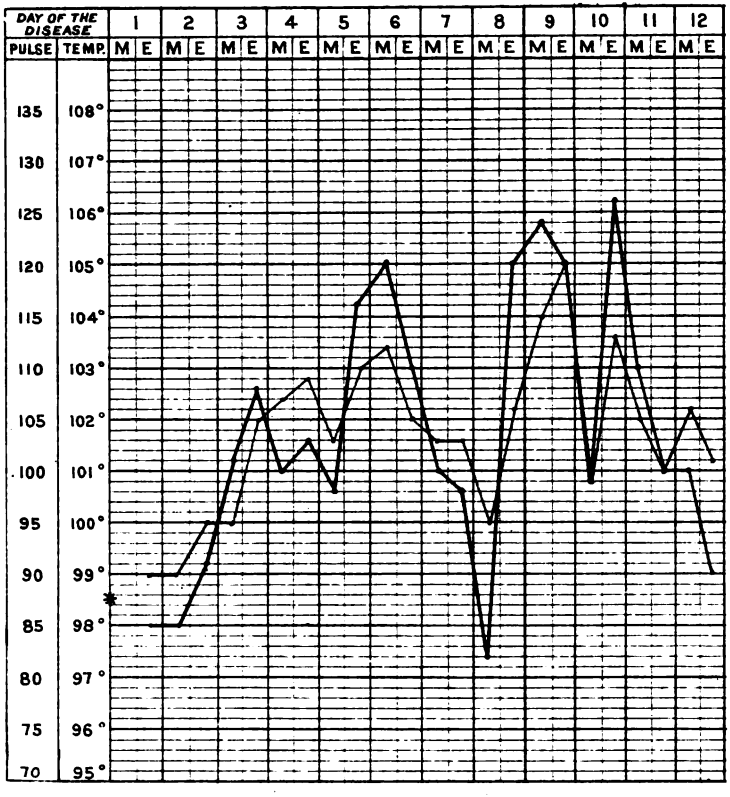

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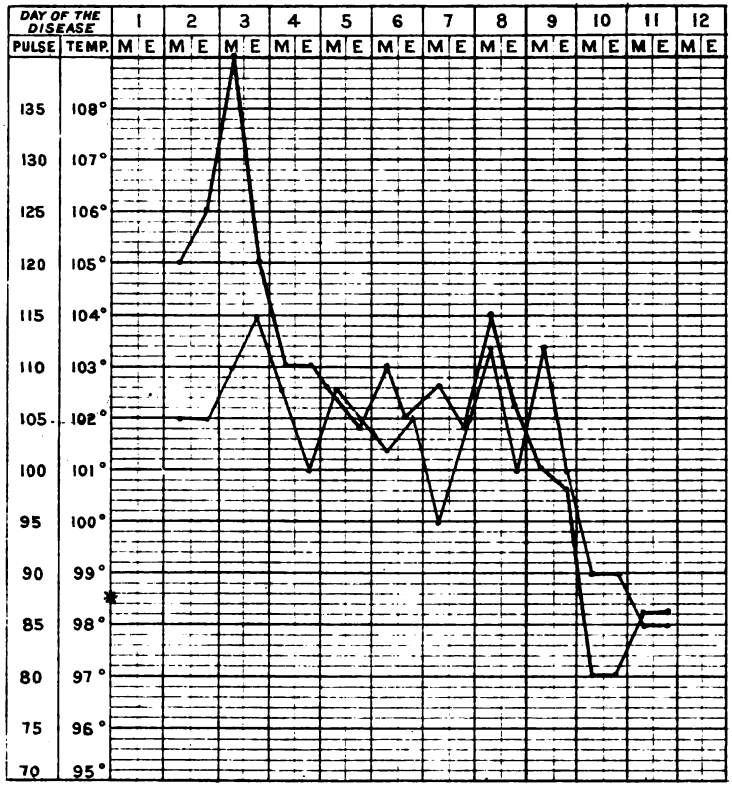

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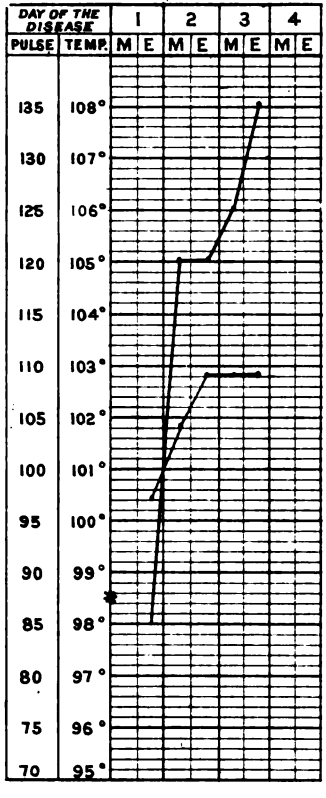

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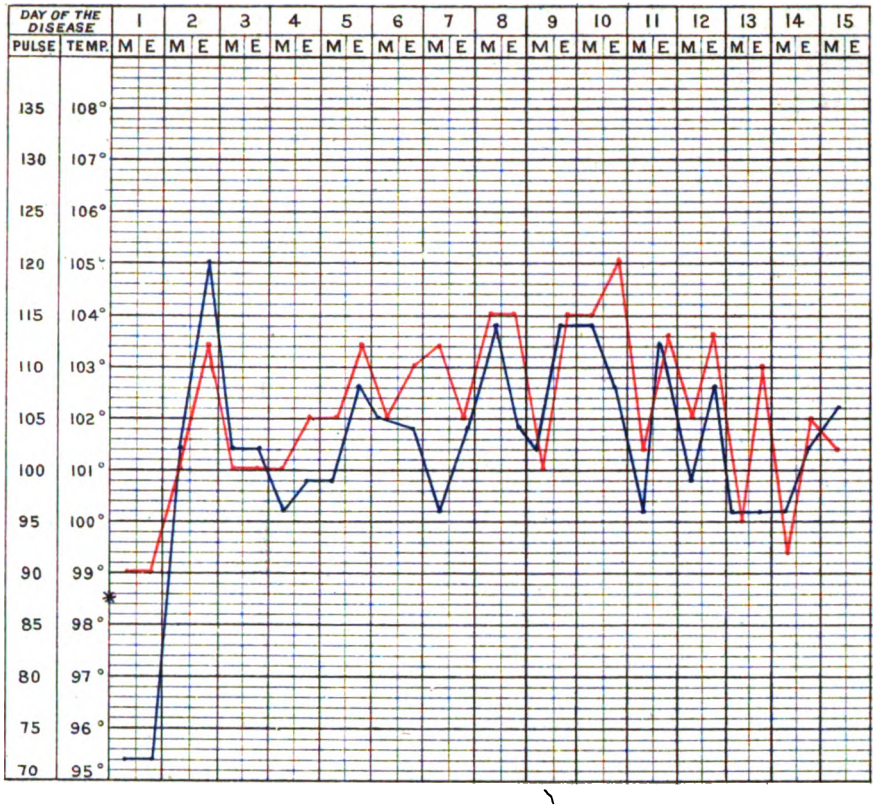

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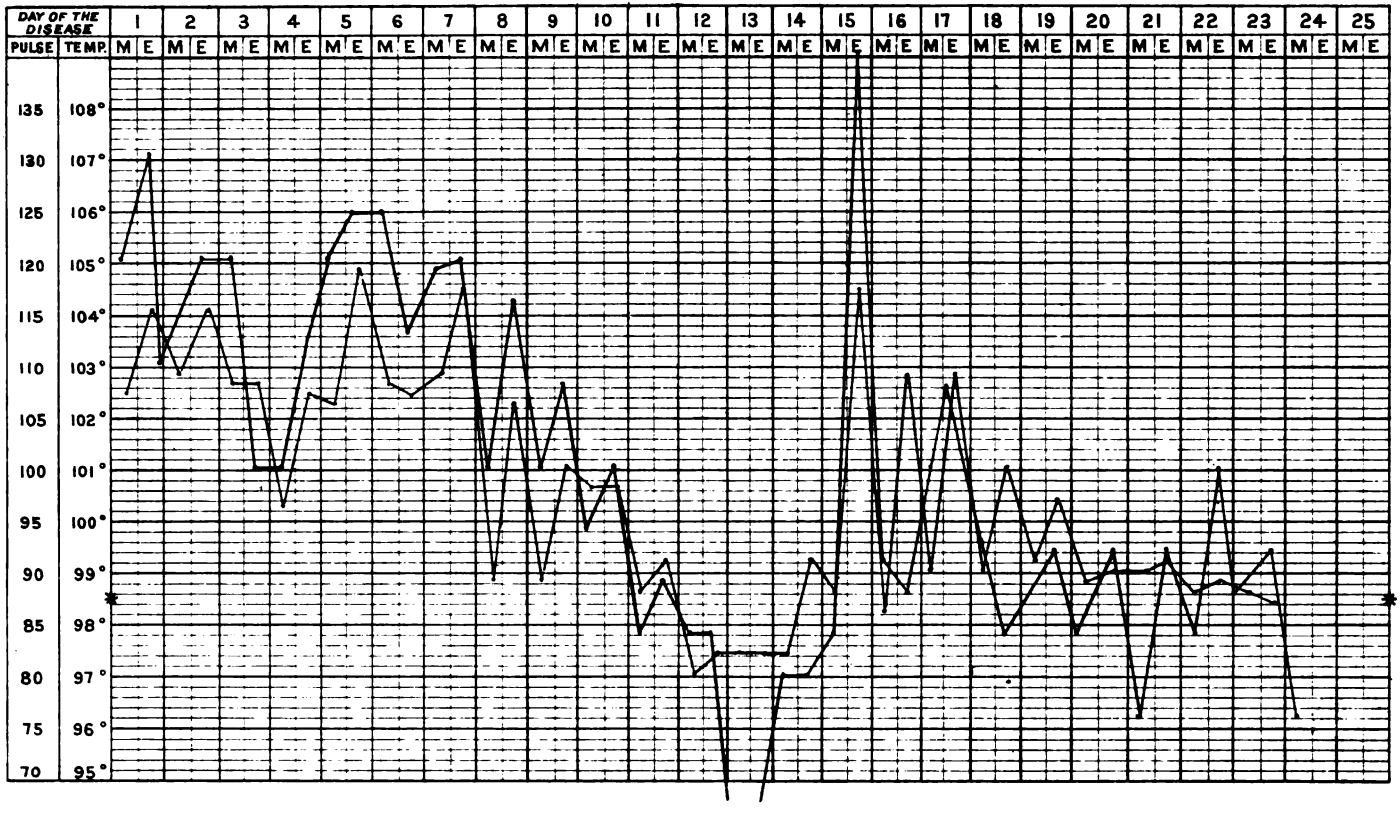

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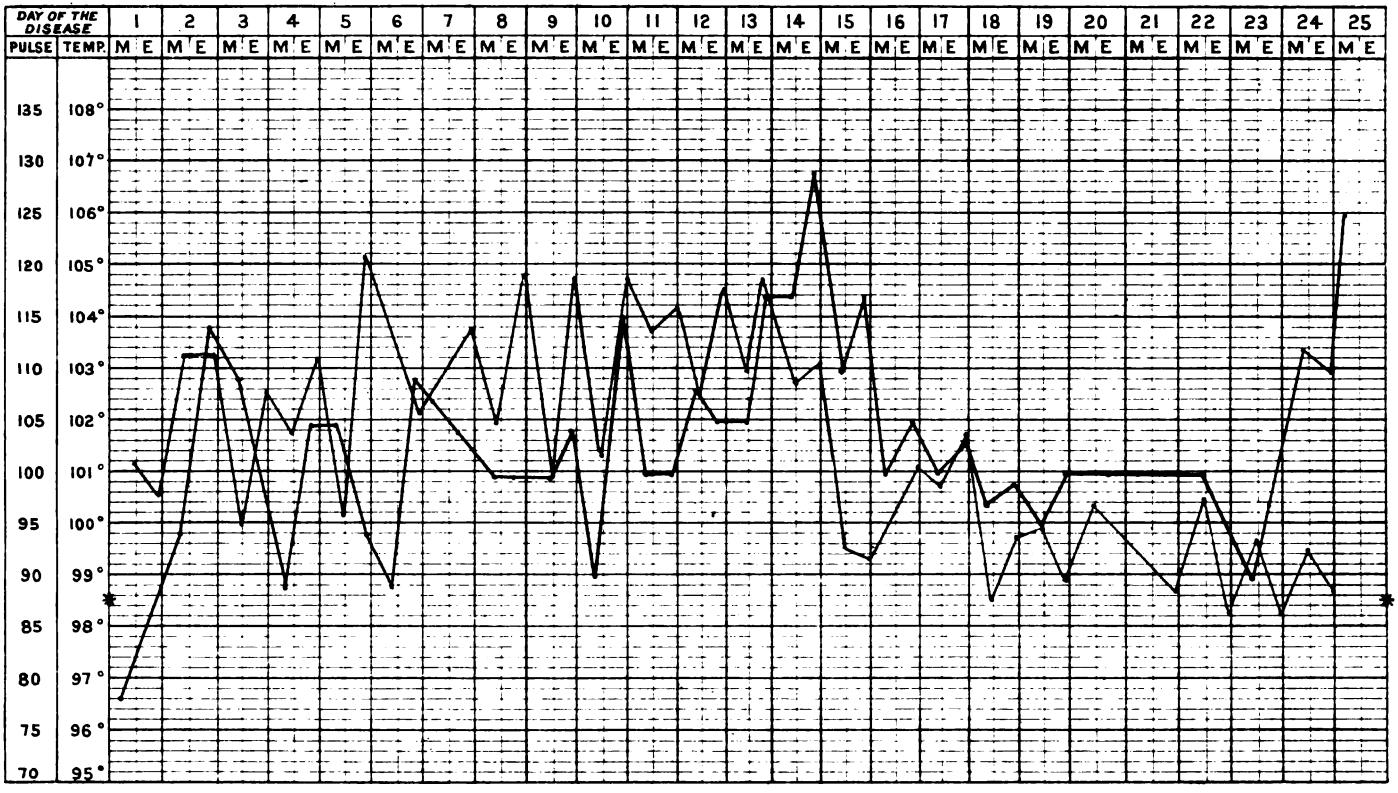

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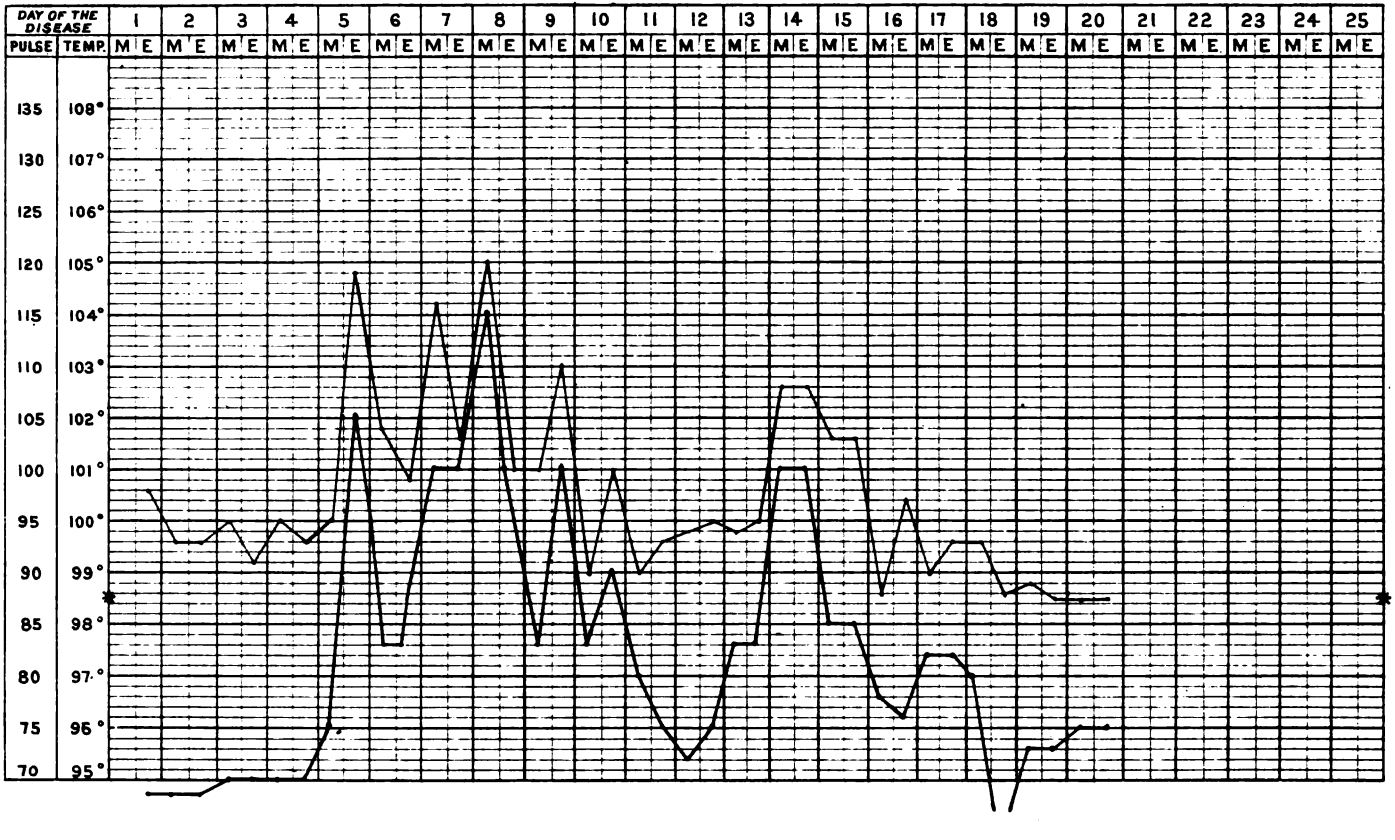

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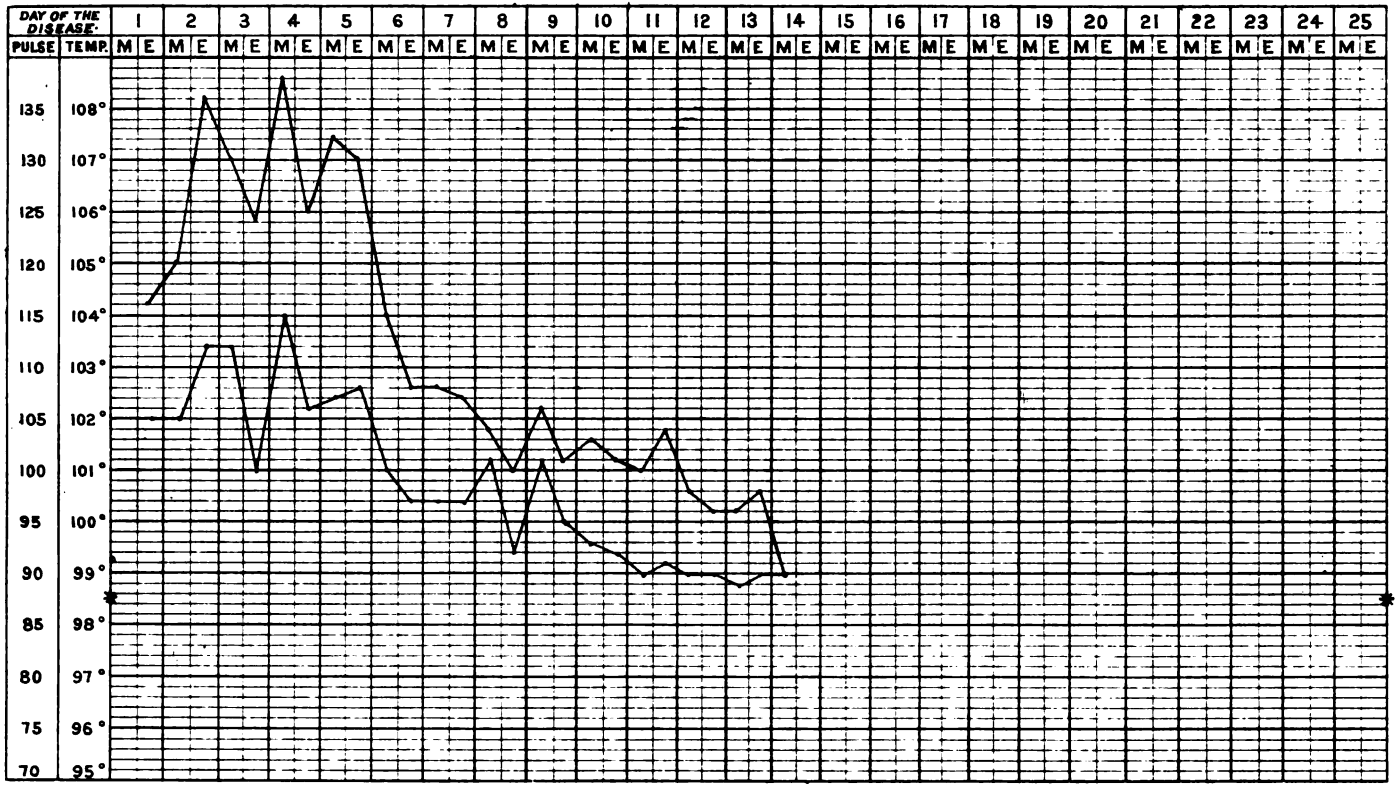

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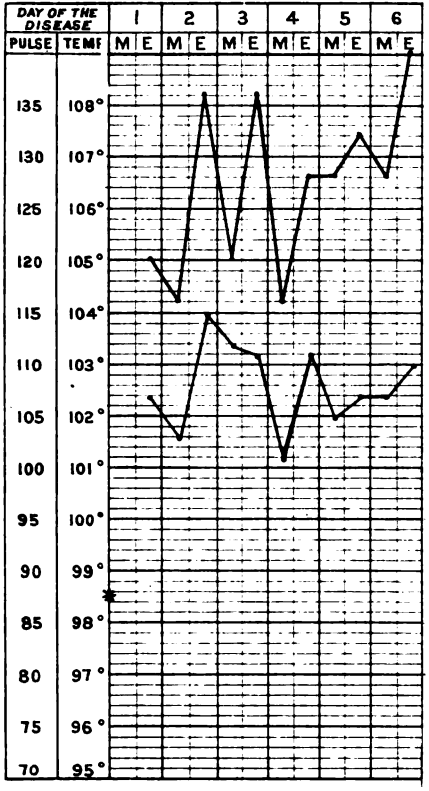

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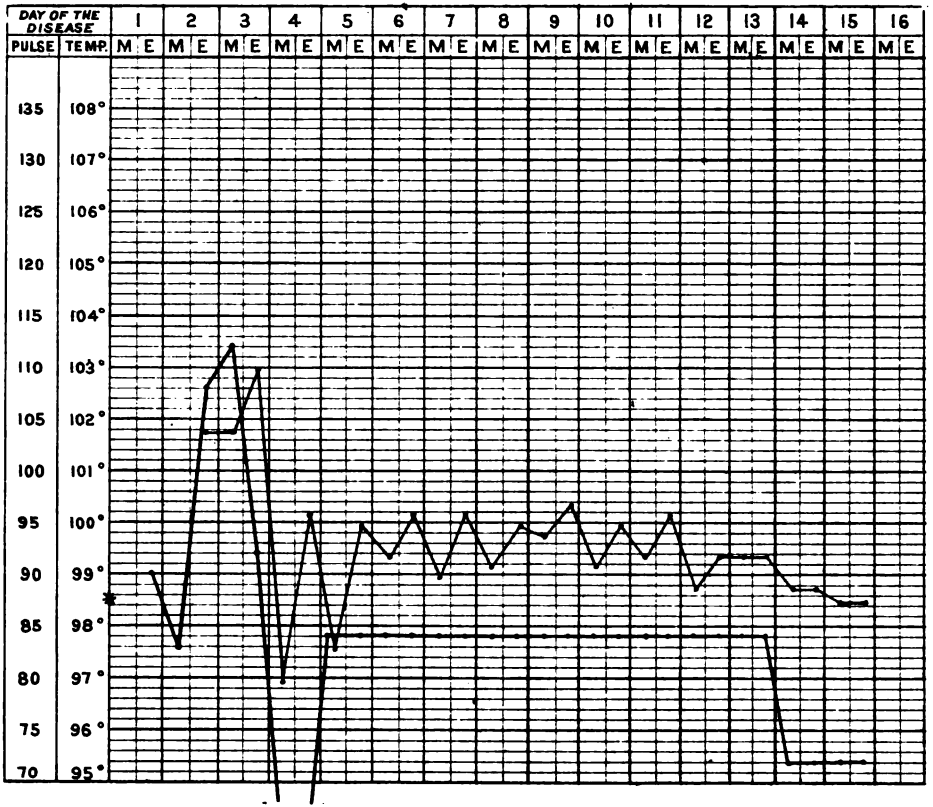

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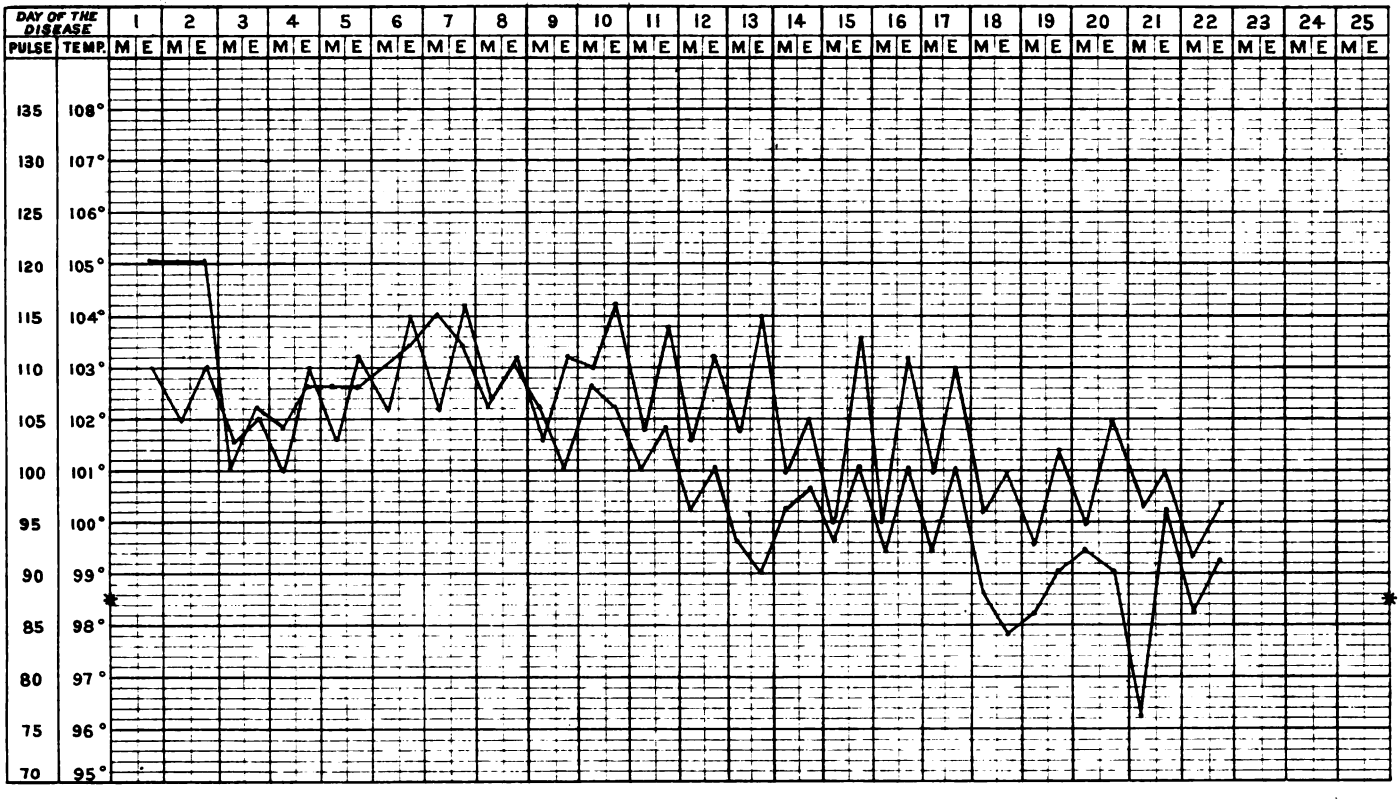

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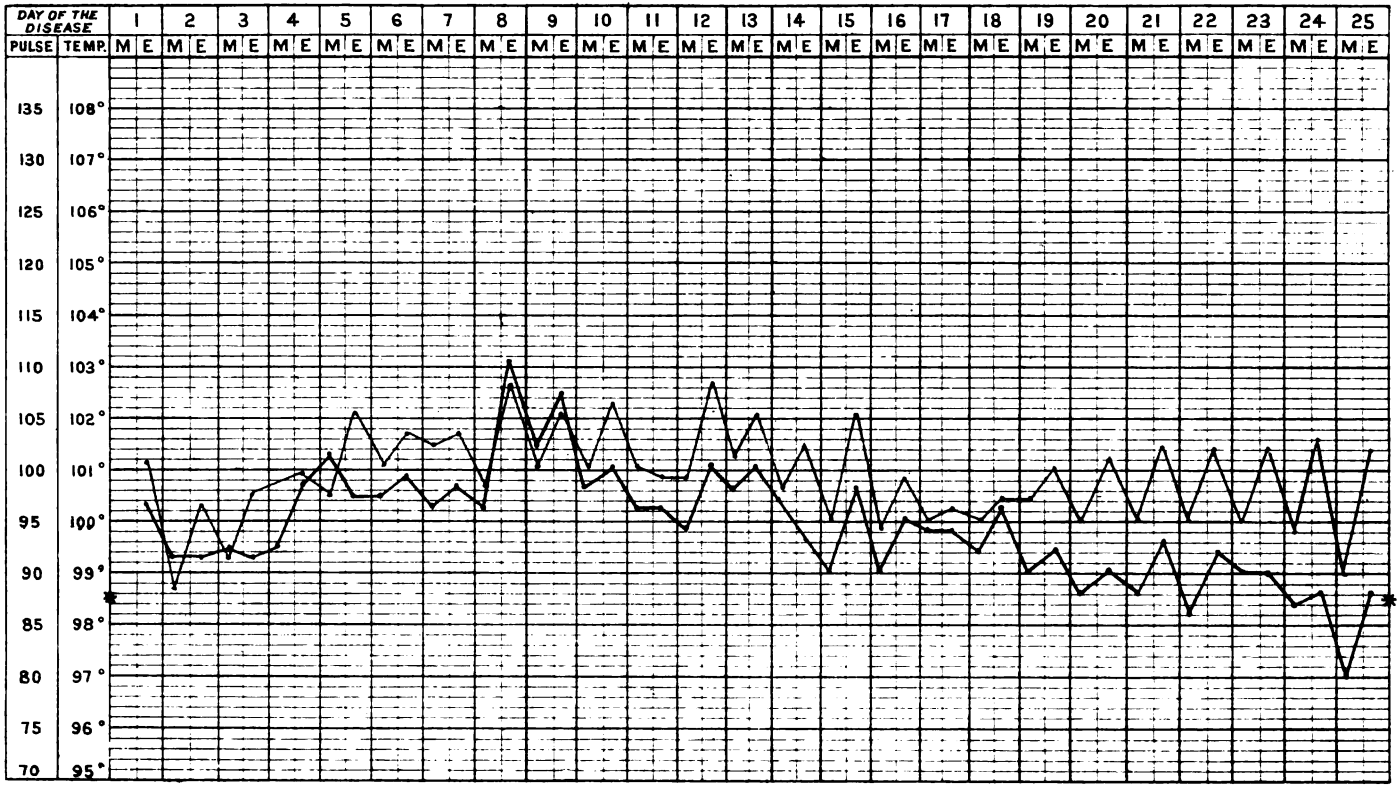

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APPENDIX.

DISCUSSION.

SPECIAL SESSION OF THE BUREAUS OF OBSTETRICS AND GYNÆCOLOGY.

Dr. J. C. Burgher, Chairman of the Bureau of Gynæcology, was asked to preside.

Dr. R. Ludlam: I move that we discuss Dr. Lungren's paper on Ovariotomy, read last evening.

Agreed to.

Dr. T. L. Brown, of Binghamton, N. Y., was called for. He said: I have had neither the pleasure nor the misfortune to treat a case of the kind mentioned; but at the same time I know very well that those who have them to treat hardly know what to do for the best. There does not seem to be very much encouragement to use remedies, and yet in my opinion the best thing to be done is to select the indicated remedy and give it in conjunction with proper regimenal and hygienic measures. I have certainly removed warts and other minor growths, and outgrowths from bones, by simple homœopathic medication, and this can be and has been done by every homœopathic practitioner. It is a reasonable deduction that even such growths as ovarian tumors may be so acted upon by the proper medicine as to be changed, absorbed and removed. At the same time there are undoubtedly cases where the knife alone will do. If I had a case of ovarian tumor to treat, I should certainly try what medicines would do. I should go through the Materia Medica carefully, and give the patient the full benefit of homœopathy before handing her over to the surgeon.

Dr. O. B. Gause: I have recently read of a number of cases of cystic growths where absorption was promptly effected by electrolysis. I should like to have some information from those who have demonstrated this practically, if there are any such persons present.

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DR. H. F. BIGGAR, being called upon, said: If these growths can be eradicated by the use of remedies or electricity, it is best to remove them in that way. If they cannot be so removed, then the knife must be resorted to—but the knife is the last resource. I think there are very many cases where growths—especially cystic growths—have been removed by medicines alone. I can testify that this has occurred in my own practice, that growths have been removed by medicines alone, except, of course, that I have done what I could in the way of hygiene and diet. Where, however, after a faithful trial, there is an evident want of yielding on the part of the growth to the action of medicines, and electricity also has been tried, the knife comes in as the only resource, and fortunately it is generally successful. I have no doubt but that electricity will prove to be a great help in the treatment of these affections. Our knowledge of its use may be said to be yet in its infancy, but the time seems to be fast coming when its uses will be better known.

There are cases of these growths, however, which will yield to medicines, and there are likewise cases that will not so yield. I cannot tell you why this is so, but I think by-and-by we will be able to say whether medicines or electricity will cure or whether the knife will have to be used, from the start.

DR. J. C. SANDERS: I have a thought or two on this subject that may not be without interest. I have no doubt that many of these growths are amenable to medicinal measures; but it is true that if they are to be cured by such measures at all, it will be easier of accomplishment when they are in their incipiency. Now, I think, perhaps the profession is somewhat to blame that these tumors are not discovered or diagnosed until the morbid growth has been going on for some time, when they might have been detected at a very early stage. If a physician listens to the complaints of his patient, and these complaints lead him to suspect or even believe that she has a tumor, he does not wish to arouse her fears, and so he leads her mind away from the subject, deceives her and allows himself to remain in want of exact knowledge of the case. It is my opinion that in all such cases, where there is a reasonable ground for suspecting the presence of a tumor, there should be a very careful and thorough examination made, per vaginam and per rectum. The whole field should be explored. The fingers and even the whole hand may be introduced into the rectum. The patient should be placed under the influence of an anæsthetic and the whole uterine field should be thus explored. Then the physician will have exact knowledge of the condition of his patient, and by thus

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knowing that a growth is forming he will be all the more enabled to select the remedy, and as it were to nip it in the bud.

DR. J. H. MCCLELLAND: In one case of marked ovarian enlargement, where the growth was of firm character, the tumor was removed under the influence of the Iodide of lime given in the thirtieth trituration. I have not resorted to electrolysis in ovarian tumors, although I have used it successfully in other growths.

DR. CHAS. SUMNER, Rochester, N. Y.: Some ten years ago I was called to see a case of what was supposed to be ovarian tumor. I found upon examination that there was considerable enlargement of the left ovary. I gave this patient *Calcarea carb.* twice a day for two months. She was a tall and slender woman, of light complexion, and about forty-seven years old. Her husband was an allopathic physician and druggist, and was opposed to her having homœopathic treatment, and consequently she was taken from under my care and placed in charge of the most famous allopathic surgeon in Rochester. He pronounced the growth an ovarian tumor. I found that after I had treated the disease for about two months it came to a standstill and remained so for about two years. At the end of the third year, however, it had attained considerable magnitude. The old-school surgeon then said nothing would afford relief but an operation, which he proposed to perform, and asked the patient to name a day for it. She was very much afraid of the knife and begged off, and finally persuaded her husband to allow me to be called in again. I found the growth to be about double the size it was when I had first seen her. I gave her the Calcarea carb. twice a day for three months, and then stopped. The tumor then began to decrease in size, and at the end of three months more was about the size it was when I first saw it. In three months more I could find not even a vestige of its presence. Some time afterwards she met her allopathic doctor on the street, and told him that she had been cured by a homœopathist without an operation. The doctor declared that such a thing was impossible, but he afterwards examined her, and was compelled to admit that the tumor had disappeared. This woman lived for six years afterwards, and died from congestion of the lungs.

DR. EDWIN WEST, of New York, related a case where a woman was reported to have scirrhus of the ovary, so pronounced by three eminent specialists of the old school, who also declared that there was no remedy for her. He was called in an emergency, when she was flooding profusely. He used China at that time and Apis afterward. This woman is entirely well, and the indurated growth has entirely disappeared under the use of homœopathically indicated medicines.

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DR. R. LUDLAM: I agree fully with the general idea advanced by my good friend, Dr. Guernsey, last evening, that we should, in all cases where it is practicable, use the remedies first, to see whether these morbid growths can be dispersed, but I am at the same time satisfied that in a great majority of these cases this cannot be accomplished. If we were able to begin soon enough, if we know early enough in the disease just what is the matter, and if we can keep the patient under control long enough and await patiently the action of our medicines, much more good might be accomplished. Just what class and what proportion of cases can be cured by medicine and just what class and proportion will resist all such attempts I am not prepared to say.

As to the operation of ovariotomy itself, I wish to make a few remarks, and I wish to call special attention to the importance of drainage. I believe it was Dr. Marion Sims first called attention to the importance of drainage through the posterior cul-de-sac, by which means we drain the peritoneal sac at the lowest possible point at which it can be done. The manner in which Dr. Lungren took advantage of this method was most practical and useful. In many cases, however, I think that drainage from the lower angle of the abdominal incision will suffice; at least this has been my experience in some of my cases. I have used the drainage-tube three times, twice successfully. I remember a little bit of experience I had in this matter which may be both interesting and valuable. In one case, on the fourth day after the operation, the discharge from the drainage-tube ceased suddenly and the temperature ran up from 102° to 105° in about one hour. I saw the patient in about two hours after this change had taken place, and shortly after I saw her the discharge was re-established, and as it increased so the temperature declined; just as in puerperal cases the re-establishment of the lochia and the milk is accompanied or followed by an improvement in all the symptoms and a decrease of temperature. I think it is of the utmost importance that the drainage should be maintained, and, as I before remarked, I have found that from the lower angle of the abdominal incision sufficient. The drainage from the wound may be promoted by turning the patient over on her side and allowing the pent-up fluid to flow out while she is in that position.

Dr. Lungren mentions in one of his cases the occurrence of gangrene of the stump beyond the ligature. I have never had such a case myself, but in one of my cases, where I had the misfortune to make a post-mortem examination, I found that gangrene had set in. I think we cannot value too highly in all these cases the clinical thermometer. It sounds the alarm if danger threatens

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and it is the best guide I know of to the condition of the patient. By carefully taking the temperature morning and evening, and oftener if necessary, we will be informed pretty accurately as to the condition of the patient.

In regard to the cure of these tumors by medicines alone, I am free to confess that I am rather incredulous as to a great many of them, and I am disposed to think that they are simply errors in diagnosis, just as I think about Pulsatilla for malpresentations of the fœtus. For instance, the diagnosis was not made in advance, the doctor has erred in the diagnosis, or nature has spontaneously corrected the malpresentation, just as is done even during labor. Yet in such cases as those related by Dr. Guernsey, where the diagnosis has been made by men of skill and experience like himself and Dr. Atlee, it looks as though medical treatment had at least the power to start the system into the way of effecting a cure, to say the least about it, and such facts as these we cannot well get over or gainsay.

DR. BURGHER: Last evening Dr. Ludlam said that by applying the clinical thermometer in the mouth we do not get a correct indication of the temperature, because of the rapid breathing, etc., and I wish to inquire as to what is the best locality in which to use the thermometer.

DR. LUDLAM replied that he hoped to discuss that question by-and-by, when he would give his views upon the subject.

DR. LUNGREN: I was very glad to hear Dr. Ludlam's remarks, because they are to a certain degree confirmatory of my own observations, but last night, in reading my paper, I omitted some points which I wish to present at this time. In the first case that recovered the pulse was 112 constantly. I examined it many times and always found it to be 112. The temperature was 100° and there was albumen in the urine. I am satisfied that this was due to pressure upon the renal body, but notwithstanding that, I regarded it as a favorable case for operation. The result showed that I was right. In the other case that died the danger was fully explained to the patient and friends. I had given the latter case remedies for three weeks and the former remedies for two months before operating. The discomfort, especially in the first case, was very great. She rested neither day nor night; if she laid down she wanted to arise, and when up she wanted to lie down. She was much excited, so much so that I feared for the result for a few days after the operation.

DR. LUDLAM: Did you take her temperature?

DR. LUNGREN: This was the case in which the temperature was one hundred degrees. In the other case the temperature

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was ninety-nine, and the pulse was eighty-eight, and the patient died.

DR. BROWN: What remedies did you use?

DR. LUNGREN: I used *Apis mel.* principally, and also gave *Aconite.* I gave *Arsenicum* because of the pain. I tried all the remedies that seemed indicated. I gave *Cantharides* at one time.

DR. BROWN: You did not select according to the book; the distinguishing thirst of *Arsenicum* was absent.

DR. LUNGREN: She had a great deal of thirst, which when the operation was performed was accounted for. She had chronic peritonitis induced by the twisting of the pedicle of the tumor. Drainage was very necessary on account of the rapid degeneration, and there was a large amount of serum afterwards secreted. Experience will enable us to determine the length of time that the drainage-tube should be used when this method is adopted. It will certainly remove from the peritoneal cavity immediately after the operation, if there have been extensive adhesions, a large quantity of bloody serum, which if allowed to remain might produce septicæmia and death. Septicæmia appears sometimes in a very few hours after the operation; some cases have died of it within thirty hours. Such cases have been relieved by syringing out the peritoneal cavity. I have kept the drainage-tube in for six days. Immediately after its withdrawal I discovered pelvic cellulitis, which I ascribed to its use. The pulse and temperature rose; the woman complained of pain in the pelvic cavity, as in an ordinary case of pelvic cellulitis. On examining the vagina I discovered that a hard plastic mass had for a long time been deposited. This presented no signs of fluctuation, but was the result of effusion in that locality. She made a good recovery.

In Sims's case I think he continued the drainage-tube too long, and when it became plugged up and no longer drained, he enlarged the opening in the Douglass cul-de-sac, and found a plastic formation, which he was obliged to break up with his fingers, around the drainage-tube. This case came very near dying; large quantities of colored material were discharged from the tube. The difficulty was to continue the discharge. When it stopped the tube was removed. I give the result of the use of the drainage-tube from my experience in these two cases.

I do not pretend to ignore the fact that medicine can remove tumors, because I remember a case of fibrous tumor of the ovary which was removed in six weeks by *Conium maculatum*, 1x dilution, ten drops being given four times daily. I shall in the next case follow this treatment. I have now a case of tumor under treatment, lying immediately over the kidney, an unusual situa-

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tion for tumors; this has diminished fully one-third, having now been for two months under the *Conium maculatum.*

DR. H. N. GUERNSEY, of Philadelphia, remarked that *Phosphorus* was a valuable remedy for fibroid tumors.

DR. SANDERS asked by what symptom Dr. Lungren was led to use *Conium.*

DR. LUNGREN: I think it was indicated, but there were no special symptoms noticed. I gave it from what I had read of its use in removing tumors of this character.

DR. T. L. BROWN, of Binghamton, N. Y.: Did the patient have vertigo while turning in bed? That is an important symptom of Conium.

DR. LUNGREN: I don't think she did.

DR. BROWN: I was chosen to open this discussion. It is difficult to make the first speech, but I wish to speak now regarding *Conium.* Dr. Lungren has given us the number of drops he used and has said to us that that medicine cured the case.

If he cured the case with *Conium* in that strength, he must have practiced what might be called medical bulldozing. If such a dose cured the patient, then the one hundred thousandth of *Conium* could not have done it, except in some person sensitive to the action of *Conium.* We may give a pint at a dose, and alternate, but it is by far better to be a homœopathist and give a single remedy, for if two remedies are given in alternation it is uncertain which one of them cures the case.

I am glad that Dr. Ludlam and Dr. Lungren, and other men who are anxious to cure their patients by the Hahnemannian method, acknowledge its truth by only using the knife after remedies have failed. If we selected our remedies according to the Materia Medica, we would have better success in their use. Dr. Lungren says Conium was indicated, but does not state the symptoms which led him to use it.

A Hahnemannian, like Dr. Guernsey, would tell you the specific symptoms by which he selects his remedies in each case. I wish to call attention to the more careful selection of remedies.

DR. LUNGREN: I was going to tell Dr. Brown what were the prominent symptoms. There was great difficulty in urinating.

DR. BROWN: That is a very important symptom of Conium.

DR. LUNGREN: There were also Arnica symptoms.

DR. BARNES asked if any gentlemen had ever treated, medically, fibroids in the cavity of the uterus.

DR. GAUSE suggested that the discussion be closed.

DR. BARNES desired an answer to his question.

DR. BURGHER: Dr. Barnes inquires if any one has had ex-

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perience in the treatment of fibroids of the uterus with medicine.

DR. R. LUDLAM: That is another subject, and it would be better to finish up our papers, taking that up afterwards. I am anxious that we should go on with the proper subjects.

DR. J. C. BURGHER: The next paper in order will be that of Dr. Ludlam on the Clinical Thermometer in Diseases of Women. If it is your pleasure, we will now take up that subject. I would like to hear from any one who has had experience with the thermometer in these diseases.

DR. SANDERS, of Cleveland, Ohio: I do not wish to occupy too much time, but to offer a few brief remarks in favor of Dr. Ludlam's paper. Since I have used the thermometer I have had little difficulty in foreseeing danger. Not long ago I had a case of severe puerperal disease in which it proved of very great service to me. Dr. Ludlam's paper is to me most gratifying, and it is very valuable to this body as a suggestive paper.

Every member of this American Institute who is not already provided with a clinical thermometer should at once procure one and go to work, following the good suggestions in this paper.

DR. RUNNELS, of Indianapolis: I was much gratified with Dr. Ludlam's paper, for it touches a cardinal point in scientific practice. I do not believe that a physician can be scientifically certain of his standing in any case without a correct record of the temperature. I have used a thermometer for three years, and would as soon think of going to the bedside of the sick without medicine as without a thermometer, and would consider a diagnosis incomplete without it. A single reading of the thermometer amounts to but little; continued readings should be made and recorded, together with the state of the pulse. We who use the thermometer find that the pulse does not amount to much in these days, and we wonder that physicians used to rest their reputations solely on their watches. In nervous ladies the pulsations of the heart are increased at least ten beats per minute by the mere approach of a physician; the pulse is under the domination of the will to a certain extent, and is very unreliable. The thermometer is absolute; you can rely on it to a certainty.

I treated a short time ago a case of puerperal peritonitis, and I know that by means of understanding the rise of temperature I was able to prepare for the coming trouble and avert to a certain degree its evil consequences. I saw that it was coming twelve hours before it came. I became uneasy because of the perturbations of the mercury. Two hours after this visit I again took the temperature and found that it had risen in the two hours two degrees. If I had waited till night or until the next

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day without attending to the case I cannot tell what the result would have been; the thermometer warned me to visit the patient every two or three hours for several days. The temperature ran up to 105¾°. I think the patient's recovery due to the warning I received by the use of the thermometer.

Dr. B. F. Dake: I have used a clinical thermometer more or less for the last six or eight years, and although it may be reliable to a certain extent, I think it no more reliable, if as much so, as the pulse, because the two must be so intimately related that there cannot be a great rise in temperature without a corresponding rise in pulse. Unless the thermometer is used at the point of greatest heat, it must be unreliable. It is well known that the oxidation of the blood is the source of the heat of the system, and if the pulse becomes increased of course the patient is taking in a greater amount of oxygen, and the temperature of the system must rise relatively; the idea of ignoring the pulse, taking into consideration only the temperature, would, I think, lead us in many cases to erroneous results. I trust no member will adopt any blue glass theory because it has been recommended. I think the thermometer a valuable auxiliary.

Dr. Runnels: I would like to correct the gentleman. I would not be any more strenuous about the temperature than about the pulse. I would ascertain both at the same time, but I do say that thermometric observations are worth much more as a means of prognosis as well as of diagnosis in clinical medicine than are the indications of the pulse. The thermometer is to the doctor what the barometer is to the meteorologist; the storm can be predicted in advance and preparation made for its fury.

If you want to make a diagnosis it can be better and more satisfactorily done with the thermometer than by the pulse alone.

Dr. Dake: I do not see how the temperature can rise very much without the pulse rising also, unless the thermometer is used in those parts where there is great congestion and inflammatory action, and consequently a greater amount of heat located. I do not see how it is going to be a criterion.

Dr. Pearson: I would like to inquire of some of the persons who use and extol the clinical thermometer so highly, if they were called for the first time to see a patient and found the temperature to be ninety and the pulse to be one hundred and twenty, which would be most indicative of danger, the pulse or the temperature?

Dr. Gause: If the temperature was only ninety?

Dr. Ludlam: Such occurrences are incompatible. It would be advisable to summon an undertaker.

Dr. Pearson: You may state it at anything else. Which

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would you consider the most indicative of danger, the pulse or the temperature?

DR. ROBERTS: There is a man now in Chautauqua who owes his life to the clinical thermometer. He had had gangrene, and had been given up to die; his foot had been previously amputated. By the use of the thermometer I discovered the approaching seriousness of his condition, reamputated and gave the appropriate remedies, and he recovered and is now living.

DR. WILSON: I would like to know what Dr. Roberts saw that encouraged him after the allopathic physicians had given up hope of the patient's recovery.

DR. ROBERTS: I had been in the habit of attending the Chicago hospital clinics. I used to visit the wards, and in that way became familiar with surgical operations. Dr. Ludlam had told us about these cases of blood-poisoning, and also how to bring down the temperature by his treatment with *Veratrum viride* and whisky. After noting the rise of temperature in this case I was thus led to use the *Veratrum viride* and whisky, and in fifteen minutes the patient went to sleep, and on waking declared himself better. Of course he had proper nourishment afterwards, and I gave him *Arsenicum* for four weeks.

DR. OBER: I wish to criticize this manner of stating the case, by which it is asserted that the clinical thermometer saved the patient's life. It might have aided in the diagnosis, but I do not think that it should be even seemingly claimed that the clinical thermometer cures cases.

DR. ROBERTS: There are gentlemen in this room who claim that a dose of the one hundred thousandth potency has saved life. Now if I had not used the clinical thermometer I should not have known what to have done, therefore I think it had something to do with saving the patient. I did not pretend to say that the thermometer did anything more than warn me, and I then knew what to do.

The allopaths said the patient could not live even if he came out of the convulsions, and six weeks afterwards were going to prosecute me for saving the patient's life. The allopathic physicians published a newspaper article criticizing the operation and saying that the patient would never recover. After the man was out on crutches I replied to that article.

DR. GAUSE: I have a few words to say. In regard to the generation of heat, there is no stove in the system; heat is neither generated in the lungs nor in the heart, but in the tissues where the oxygen comes in contact with the carbon; that is where the fire is made, and it is in all parts of the system. The blood is warmed, and when, as sometimes happens, there is a diminution

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of blood in certain localities, with a corresponding increase elsewhere, we have a sensation of increased heat. Every mother can tell when her baby has a fever by the heat of its skin. Now when we treat diseases in which something is thrust into the blood that will burn like shavings in the fire, the thermometer at once indicates it. My experience is that under the axilla, or in other covered parts of the body which are not exposed to a cooling process, or by a local application of cold, the heat is the same as at the point of inflammation. In all disease with blood-poisoning, the temperature of the body is elevated to such a point that the ordinary ratio between the pulse or heart-action and the bodily heat is not maintained. Ordinarily I am a little hotter when I arise. A person in walking takes oxygen more freely because the heart has to beat more freely, and that raises the general temperature of the body, and it corresponds with the action of the heart and the temperature of the body. When anything enters into the circulation, it heats up the circulation, so that a regular symmetrical rhythmical relation exists between the pulse, heart and temperature of the body. If you look at the charts that Professor Ludlam circulated last evening, you will be particularly impressed with certain facts. There is one case where the pulse was one hundred and thirty, and the heat not so great as when the pulse was ten or fifteen beats less. Now is it the heating operation or some morbific material in the blood that produces an increased temperature that is not indicated by the action of the pulse? As I said before, the whole theory of animal heat is that the oxygen comes in contact with the carbon and kindles a fire all over the system. It is not generated in one special place, but wherever tissue is destroyed by any destructive process. Now there is a destructive process going on where there is any septic influence at work in the blood, and I use the thermometer to discover such processes. I use it in scarlet fever, especially in the malignant variety; also in all diseases of the puerperal state. In lactation there is an increased temperature, but also a corresponding increase in the pulse, as this is a normal and not a septic condition of the blood. When the blood is subjected to septic influence there is a great fire in the system; it burns, you feel it, and the temperature shows it, and increases as the fire burns hotter and hotter with the increase of the disease.

DR. LUNGREN: I only want to add a word. We seem to be discussing physiological questions; we are speaking as to the cause of heat in the body. I do not wish to touch on that subject. In speaking of the value of the thermometer there is one very important point in connection with its use. By it we are often able to discover cases of obscure diseases where we are

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uncertain as to what is the matter. My friend, Dr. Guernsey would say, get the symptoms and treat it even if you don't know what it is. I wish I could always cure my patients thus. Suppose you have a case of miliary tubercles scattered through the lungs; you examine the patient and find a cough, with lassitude, night-sweats, loss of appetite or a voracious appetite. These symptoms point to impending trouble in the lungs. The cough may be a bronchial cough, it may be a slight bronchitis, simply; other people have had the same kind of a cough apparently and recovered. The patient may say he has a slight cough in the morning and a little in the evening. The skin may be dry or it may be almost normal. Now if on applying the thermometer to the axilla it shows a temperature of one hundred or one hundred and two-fifths degrees, which continues day after day, and when on making an examination there is a sudden rise or fall, then you may be certain that there is a serious disease going on, probably tuberculosis, and the friends can be warned. I could multiply cases and give instances of other diseases. I think that in local inflammation there is a slight increase of temperature of the affected part, but so slight that not much is gained by applying the thermometer to that particular part.

DR. RUNNELS: I would like to give an illustration of the value of the thermometer in a case which I had. I was called to our hospital one evening to see a patient whom two physicians had been treating for congestive chills. They had treated her a few days before for the same thing, and now for twelve hours she had been lying apparently at the point of death. Her friends were around her bed expecting to see her die. She was pale and cold at the extremities, with a pulse of 120, and was apparently in a collapse. On applying the thermometer to the axilla I found that the temperature was only ninety-eight and a half. I then said to her friends, "You need not fear. She will not die. Get out of the room and don't have so much sympathy about her. Let her alone." In half an hour she was as mad as a hornet, and drove her friends all out of the room, and did not allow them to return during the night.

DR. ST. CLAIR SMITH, of New York: In a case of mine septicæmia had followed a large abscess, and the thermometer indicated 106½ degrees. I think the temperature is always a little higher in the vagina and in the rectum, because the thermometer is more protected there than in any other part of the body.

DR. LUNGREN: A fifth of a degree higher.

DR. ST. CLAIR SMITH: I have forgotten the proportions now regarding the height of the temperature. 107 and 107½ is generally regarded as a very dangerous temperature if continuing

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for any length of time. I had a case a few years ago of a young infant whose temperature ranged at about 108½ degrees. There were two thermometers in use; the father had one and I had one. They were used four times a day. This was a premature child, born a little under seven months. At first it had a spasm. The nurse was not allowed to wash it. We had it oiled and wrapped in Canton flannel, kept the temperature above 90 and covered it with swan's down. It was hot weather and the temperature of the room was sometimes at 90 degrees. After a time the child developed a very fetid odor and it was a long time before we discovered the cause of it, but we finally found that the nurse had allowed a little lock of hair to get in with the clothes of the child, and it had in some way gotten under the child's arm, and in moving it backwards and forwards had caused an abrasion all along the surfaces of the arm and body. This had discharged for a long time and had become almost gangrenous. A sympathetic bubo formed under the joint nearly as large as a butternut, and the child's temperature was 107¼ and 108½. When this was discovered I gave Hypophosphate of lime and the child recovered. It is now something over three years old and is the largest child of its age I ever saw.

DR. LUDLAM: I am very much delighted to have drawn the fire from so many guns. One of the most discouraging things in the world is to sit down and write what you have to say on a subject, carry it to the convention and then to have it fall without discussion. I am exceedingly gratified and flattered. My temperature has been at the least 105 this afternoon, out of pure gratitude for this discussion.

DR. RUNNELS: That is a dangerous condition.

DR. LUDLAM: It is going down as I perspire a little. I wish, in the first place, to have it distinctly understood that the author of the essay under discussion, and which may perhaps be printed, does not wish to foster the idea that there is anything original in his use of the clinical thermometer. I certainly do not claim anything of the kind. In calling the attention of the profession to the use of the clinical thermometer, especially in puerperal diseases and as an adjunct in the treatment of surgical operations, I hoped to do a service, since this department of diagnosis has been neglected, and since we, above all men on the face of the earth, if we are not already such, should be desirous of becoming great diagnosticians. I believe that these instruments afford one of the most valuable and useful means of making a correct diagnosis and prognosis for the satisfaction of ourselves and the patient.

I claim for these little charts of mine that I have combined a

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chart of the temperature with that of the pulse on the same page, putting the two curves parallel so that they can be studied together. That is all I claim.

I insist that puerperal diseases should be studied and the results recorded separately. Granted that there is, comparatively, a relative condition between the pulse and the temperature in ordinary cases, then we must have the relative numbers. This is especially important with doctors who examine for life insurance, and they and others take advantage of it.

The condition contingent upon pregnancy is entailed upon puerperal women for weeks, and it may be for months, and therefore we cannot depend upon the pulse, as we otherwise should. The difficulty among puerperal pathologists is that there is a lack of definite, positive, detailed, unmistakable observations, that never have been and never can be made by means of the pulse. In order to understand puerperal pathology we must have something more definite. There is no question but that puerperal fever would have been long ago understood if we had not been puzzled and bamboozled by the pulse of the puerperal woman. If we can take the temperature we shall have something definite, practical, accurate, mathematical, exact, uninfluenced by the pulse, but going along independently of it. Thus we have something we can depend on, and although Dr. Ober says he don't like to hear us say that we cure by the thermometer, yet it is one of the great helps, more valuable than anything we have ever had.

I believe in Dr. Gause's idea, and I am very much obliged to him for his originality in inventing a word which will be of service in this subject. He speaks of the morbid materials which have been absorbed as so many shavings which have been thrown into the fire. These are septic shavings, substances that are post-organic, but which burn like tinder. These must surely send the mercury up. My own idea regarding the use of alcohol is that we give it to the patient so that it may be consumed and the healthy tissues saved, and as they are put upon and consume the alcohol, thus keeping the normal calorification and the natural temperature, in just such proportion I believe alcohol to be homœopathic to these cases.

Discussion during the Session of the Institute.

Tullio S. Verdi, M.D., Washington, D. C.: *Mr. President and Gentlemen:* I wish to express my thanks to my friend, Dr. Ludlam, for his excellent and scholarly paper. I do not rise for the purpose of criticizing it, but to ask a few questions. I

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understand the doctor to aver that a marked rise in the thermometer would indicate a degree of septicæmia; now frequently on the second or third day after delivery we have a condition of hyperæmia owing to the establishment of the milk, and we recognize it by fever, quickened pulse and other symptoms. Might not the thermometer showing a rise in the temperature under such circumstances indicate something else than septicæmia?

DR. LUDLAM: If there are any other questions I should like to have them asked, that I may answer them all at once.

E. M. KELLOGG, M.D., of New York: I would feel obliged if Dr. Ludlam would give us the treatment by which he wards off septicæmia.

O. B. GAUSE, M.D., of Philadelphia: I rise simply to testify to the use of the thermometer in these cases in my own practice. As Dr. Ludlam very well says, it often gives us the first alarm of the oncoming danger, and in that way we get the most time to combat it. This is very important with a disease that may take the patient's life in a few hours unless properly and vigorously managed. Those who use the thermometer soon find its value.

DR. LUDLAM: In relation to the question of Dr. Verdi. It has been a question with those who use the clinical thermometer in the puerperal state, whether there is or is not a physiological rise in the temperature incident to the establishment of lactation; some writers insist that there is such a rise, while others certainly oppose it. There may be such a rise, physiological and harmless; but in the case to which I especially referred, the milk had been freely established without any unfavorable symptoms, and we had septicæmia in the hospital and were consequently naturally suspicious, and noticing the rise of the thermometer, we suspected the oncoming of septicæmia, and our suspicions were proven to be correct.

In reply to the question of Dr. Kellogg, regarding treatment, I will say that I purposely avoided this part of the subject; but I may say this, that I believe cases of this kind can be better treated on broad common-sense and physiological principles than they can by strict individualization according to the symptoms. I say this with fear and trembling, but I believe it to be true. I believe that at the outset of a case of septicæmia it is to be met by physiological treatment, dietetic and medicinal. You must bear in mind the condition of the patient; *she has been poisoned and is burning up*, burning herself and her life up. You must bring down her temperature, and then you can treat her symptomatically if you please, or you can give her what you may regard as the proper remedy at the same time that you are reducing the

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temperature by other means. In my opinion the best means to secure a reduction of the temperature is by the free use of alcohol. Give them alcohol in some form or other, and at the same time give them nourishment, milk being the best; and you can give them both together in the form of milk punch, which is always available and is very palatable and easily taken. Oysters also can be given; they are very nutritious, and may be taken from the start.

There are certain remedies also which seem to have a direct tendency to reduce the high temperature, and among these probably the most important is Veratrum viride. It is not necessary to give it in large doses of the tincture, as some declare, but you may use it in any attenuation you please, and you will find good results follow; it will help to lower the temperature and restore the milk and the lochia which have been suppressed. Sometimes Aconite will be indicated, and sometimes Bryonia will be the remedy to be employed, especially when the mammary symptoms are marked, and the patient has chills and is decidedly depressed.

PHILO G. VALENTINE, M.D., of St. Louis, Mo.: I would ask if puerperal fever is, in your opinion, always the result of septicæmia, or can there be no fever in the puerperal state not due to septic poisoning?

DR. LUDLAM: I believe there is no such disease as puerperal fever distinct and separate as an actual disease, a disease *per se*. I believe that the high temperature in all these cases is due to septic poisoning or purulent infection.

B. W. JAMES, M.D., of Philadelphia: I wish to add my testimony regarding the importance and value of the clinical thermometer, not only in puerperal diseases but in all others. Since its introduction into practice, it has certainly been of much use in the diagnosis, treatment and prognosis of a large class of diseases. I treat a great many cases of heart disease, and of late the pulse as a sign has fallen into disrepute with me. I now rely more on the thermometer and the tracings of the sphygmograph, especially in acute inflammatory cases.

I wish to make a few remarks on the treatment of various tumors without the knife. Two cases of this kind came under my care at about the same time, nearly three years ago, and in both cases the tumors had attained to a considerable size. I treated them both medicinally for some time, when the growths were arrested and did not increase. These women both became pregnant, and were greatly alarmed in consequence; but I advised them to continue with the medical treatment and allow the pregnancy to continue to term. They had each had several children,

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but neither of them had been pregnant for several years. I told them that in all probability nature would provide for herself, or that after awhile I could evacuate the contents of the tumors and give more room for the enlarging uterus. They both went on to full term; both had ovarian tumors of the left side; both had female children and both did well. One of these women had mitral disease, and in this case, some time after parturition, no tumor could be detected after the most careful examination; in the other a small lump may be detected, and in this case, at the time labor set in, the tumor was of the size of large doubled fists, and required much care to keep it out of the way as the head came down. Since these labors, which occurred within two or three months of each other, and now nearly three years ago, both women have remained in comparatively good health, one of them, I may say, being quite well.

F. R. McMANUS, M.D., of Baltimore: To what did you attribute the subsidence of these tumors?

DR. JAMES: My theory was that nature had called off the irritation from the ovary to the womb.

DR. McMANUS: Did you not attribute it at all to the pressure of the gravid uterus.

DR. JAMES: If that had been the case, I should suppose that the growth of the tumors would have been resumed after the pressure had been removed.

D. S. SMITH, M.D., of Chicago: Would you then recommend pregnancy as a cure for ovarian tumors?

DR. JAMES: I merely mentioned these cases as two curious instances.

H. N. GUERNSEY, M.D., of Philadelphia: Dr. Lungren gives us an account of several cases of ovariotomy. I have no doubt but that these cases were operated on as skilfully as could be done by any one. There is no one I would sooner call upon to operate for me than Dr. Lungren. But it would be well for us, gentlemen, to stop and consider whether it would not be well for us in these cases to give a fair trial to homœopathy before proceeding to operate. I have had considerable experience in this very matter. Old-school surgeons are reported to have in these cases great skill in diagnosing the various forms of ovarian enlargement. If one of these specialists pronounces a case to be ovarian dropsy, it is fair to consider that his diagnosis is correct. Now such cases have come into my hands; cases pronounced by such men as Dr. Atlee, of Philadelphia, to be ovarian dropsy, or ovarian cyst, and they have been cured by homœopathic medication after the patients had been told that there was no recourse but the knife. One case I remember well in which the patient

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was told by a skilled specialist that she had an ovarian cyst, and that nothing would cure her but an operation. She dreaded this very much, and was induced to come to me. I did not promise her much, and told her that at first she would find no decrease in her size, but that if she felt at all better she should continue with medicines, and that by-and-by she would notice a diminution of the growth. I considered that *Apis* was indicated, and gave her a single dose. At the end of three weeks she said she felt a little more comfortable, that she had begun to feel so almost at once, and that the improvement in her sensations had continued steadily. I then gave her a dose of Apis 1m, and she made another brilliant start and continued to improve for some weeks longer. In a few weeks more she received another dose of Apis 1m. Before she received the second dose she had noticed a decrease in her size, and in about eight or ten months she became pregnant, and in course of time gave birth to a healthy male child. She has remained quite well ever since, and this occurred a number of years ago. Another case of a similar character I will mention. This patient was also told by skilled specialists of both the new and old school that she had ovarian dropsy, and that there was no relief for her except by an operation, and that even that was doubtful. There are gentlemen here who saw that patient. She was very restless and uneasy at night; could not sleep well. I gave her a dose of *Arsenicum* 8m, and subsequently a dose of Arsenicum 40m. These were all the medicines she received. I told her what she might expect; first an improvement in her sensations and by-and-by a diminution of the tumor, and it came out as I had told her. She began to improve after the first dose, slept better, had a better appetite, was more cheerful and lively, "more like herself." Here is another case which Dr. Atlee pronounced ovarian tumor, cut down upon, and closed up the wound, telling the patient the adhesions were so extensive that the operation would be useless. The patient was very restless and uneasy, suffered very much from flatulence, and was only relieved by belching; she could not sleep, and had wasted away almost to skin and bone. She came to me and I gave her a dose of *Kali carbonicum* 100m. In eight days she saw me again, and said that she felt altogether more comfortable. She received fourteen blank powders with directions to come again in fourteen days. I expect to cure this case, and if I do I will make a faithful report of it to this Institute. In addition to these cases I have cured a number of others in which I was responsible for the diagnosis. Now, gentlemen, here is something to begin with, something to encourage us. If we can cure in some cases without the dreaded knife, why not

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in others, or why not in all? Select your remedy carefully in accordance with the directions given by Hahnemann, and if you get from your patient nothing more in a few days or weeks than that she feels a little more comfortable, less uneasy, or sleeps or eats better, be satisfied and hopeful, and persevere; wait for the action of the dose to be exhausted before you give another.

In reference to childbed fever or puerperal peritonitis, call it what you will, it strikes me that giving milk punch in a case of this kind is not homœopathic, and is contrary to the teachings of the father of homœopathy. I speak from a large experience, extending over more than thirty years. Some years ago, when I lived in the Twenty-third Ward of Philadelphia, there seemed to be a tremendous epidemic of childbearing; they were having babies all the time, and it was no uncommon thing for me to attend two or three of these cases in a night and two or three during the day. We had cases of childbed fever, and the allopathists lost them by the score. I was the only homœopathist in that neighborhood, and I had a great many cases, oftentimes side by side with those of my allopathic brethren, and during all these times I did not lose a single case; and in over thirty years' practice I have lost but one. I did not give them milk punch and Veratrum viride to keep down the fever, but I carefully individualized each case, according to homœopathic principles, and to some I gave Belladonna, to some Arsenicum, to others Apis, Kali carb., Bryonia, or whatever remedy was indicated by the symptoms. I appeal to you, gentlemen, to stand by pure homœopathy and avoid these generalizations; practice Hahnemannian and not Hendersonian homœopathy. I do not wish to wound any one's feelings, but I feel that I must stand up for what I regard as a great and mighty truth.

A MEMBER: What was your diet in these cases of fever?

DR. GUERNSEY: Cold water and nothing else; the patients wanted and needed nothing else. I gave them nothing but the cold water for two or three days, perhaps, and then they began to want food, and I gave them milk, gruel and panada; and after the fever has abated considerably I gave them a little meat broth. I feed them as rapidly as circumstances will permit and do not starve them. I do not give them brandy or milk punch, and would expect to lose them were I to do so.

DR. VERDI: I wish Dr. Guernsey would tell us why in one case and at one time he gives the 100m, at another the 40m, at another the 8m and at another time the 2c?

DR. GUERNSEY: Some of these cases I have just mentioned were chronic cases (ovarian tumors), while others were acute cases of puerperal fever. I do not know that I can tell you ex-

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actly the why, but there are differences in the actions of different potencies, and my experience with them leads me to use different attenuations in different cases. I shall be perfectly satisfied if Dr. Verdi will use tinctures, provided he selects his remedies in accordance with Hahnemann's principles and follows the *Organon*. First be sure you have selected the homœopathic remedy, and then give it in whatever potency you please. I prefer the high and highest potencies and the single dose.

DR. VERDI: If you had no results from the 100m, what would you do?

DR. GUERNSEY: If I felt sure that I had selected the right remedy, I should go higher, and perhaps give the millionth. There is no use laughing at these things, gentlemen; I am giving you nothing but facts.

S. S. LUNGREN, M.D., Toledo, Ohio: I would like you to tell me the ages of your patients who were cured of ovarian disease.

DR. GUERNSEY: The first was about thirty years old, the second about forty or forty-five, and the one mentioned as under treatment now is about fifty.

DR. LUNGREN: Your method of treatment of the first case would hardly apply to my patient, aged 63. I neglected to state that I had used the indicated remedies. I would like to ask Dr. Guernsey whether he indorses a statement made in his work on obstetrics to the effect that no case operated upon for ovarian tumor had been known to live beyond nine months after the operation.

DR. GUERNSEY: I do not remember any such statement.

DR. LUNGREN: In the article on ovariotomy and its dangers, you state that medicines should be used instead of the knife, and declare that the patient has not been known to live beyond nine months after the operation of ovariotomy.

DR. GUERNSEY: If there is such a statement it is an error, and crept in by mistake. You will not find such statement in my second edition.

DR. LUNGREN: No, sir; it is not in the second edition, but it is in the first.

W. H. WATSON, M.D., Utica, N. Y.: Whose preparation was the 100m?

DR. GUERNSEY: It was made by Dr. Fincke, of Brooklyn. He has been called a bottle-washer. You may call me a bottle-washer if you like, but I say to you wash the bottles as I do and see what comes of it. At a meeting of the Institute, a great many years ago, in the early part of my professional life, Dr. Hering reported a number of extraordinary cures made with the

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high potencies, and some one said within my hearing, "That's a lie!" I asked myself the question, Would Dr. Hering tell a lie in such a matter as this? I determined to investigate, and I did so, and I have proved by years of experiment where that lie belonged.

C. ORMES, M.D., Jamestown, N. Y.: I would inquire of Dr. Guernsey whether he has had any experience in the treatment of the colloid or cerebral forms of these tumors.

DR. GUERNSEY: I am not prepared to say that I have or have not. I have cured ovarian tumors, but I would not like to say what kind they were.

THE PRESIDENT requested the Institute to close the discussion, as the business was already greatly behindhand.

DR. R. LUDLAM: I have but a few words to say in reply, Mr. President, and I feel that the Institute must not be carried away by the flood of Dr. Guernsey's eloquence into a wrong direction. I have been greatly misunderstood. I merely wished to show the value of the clinical thermometer in the diagnosis and prognosis of the various puerperal affections. In so far as my remarks on treatment are concerned, and which called forth from Dr. Guernsey such an eloquent vindication of homœopathy —pure homœopathy, as he understands it—they were made in response to a query from my friend, Dr. Kellogg, and I do not wish to have them misinterpreted and myself misunderstood. I do not wish to have it implied by this audience, nor stated by any physician, whether he knows a great deal more or a little less than I do, that I treat all cases of puerperal disease alike or commit them all to the hygienic treatment I have described, and which seems to me to be well adapted to certain conditions that are incident to them all. The object is to tide the patient over, so to speak, a period of threatening danger. I do not wish to have it implied or understood that because I give my patients milk punch, believing it will be good for them, my suggestions are of less value than those of another physician who does not give milk punch. Excepting one case of puerperal convulsions, I have never lost a puerperal case in my practice, of which I will not boast, but which extends over a period of more than twenty-five years. My little reputation as a homœopathist is something to me. I gave this paper in good faith, to call the attention of the members to the value of the clinical thermometer.

DR. GUERNSEY disclaimed any intention of being personal in his remarks. He had not made use of the thermometer as yet, but he would get one as soon as he returned home and avail himself of its value.

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SECTION XII.

REPORT

OF THE

BUREAU OF PÆDOLOGY,

T. C. DUNCAN, M.D.,	Chicago.
N. R. MORSE, M.D.,	Salem, Mass.
L. M. KENYON, M.D.,	Buffalo, N. Y.
G. W. SONNENSCHMIDT, M.D.,	Washington, D. C.
G. H. WILSON, M.D.,	West Meriden, Conn.
W. H. JENNY, M.D.,	Kansas City, Mo.
H. V. MILLER, M.D.,	Syracuse, N. Y.
W. N. GRISWOLD, M.D.,	San Francisco, Cal.
MARO McL. REED, M.D.,	Jacksonville, Ill.
C. D. CRANK, M.D.,	Cincinnati, O.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 3.

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XII. Treatment of Hydrocephaloid, ... H. V. Millke, M.D.
XIII. Experience with Hydrocephalus and Hydrocephaloid in California, ... W N. Griswold, M.D.
XIV. Acute Hydrocephalus, its Management and Treatment, . W. H. Jenny, M.D.

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IX.

DIFFERENTIAL DIAGNOSIS OF HYDROCEPHALUS AND HYDROCEPHALOID.

By N. R. Morse, M.D., Salem, Mass.

The frequency of occurrence, the difficulties in the way of diagnosis, and the great fatality which attends these diseases under allopathic management, press their claims forward for our special study at this session of the American Institute of Homœopathy, and it falls to my lot to examine the most difficult and obscure section of the subject, namely, the diagnosis, giving the *differential* symptoms which distinguish them in their early stages from allied and other diseases which exhibit many similar characteristics.

I enter upon the task not without doubt, but with an earnest hope that I may so simplify and make clear the diagnostic points, that we all may be able to recognize and not confound these maladies with something else, and so let the golden opportunity pass by unimproved when these protean diseases may be arrested in their development, or their successful management made possible under the benign therapy of the immortal Hahnemann.

Great confusion often arises in the use of medical terms, and nowhere does this lamentable confusion appear more marked than in the use of the terms employed by various authors to signify the diseased conditions of the brain selected for our special consideration at this time.

I shall first define or attempt to give limit to the technical expressions employed by various writers upon these subjects, so

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that we all may understand what is and should be known and recognized as hydrocephalus and hydrocephaloid.

Definition.—Hydrocephalus is derived from two Greek words, ὑδωρ and κεφαλη, which signify water in the head, or dropsy of the brain. It is known and recognized as the acute and chronic; the latter including the congenital and acquired.

Hydrocephaloid is derived from hydrocephalus and ειδος, having resemblance or likeness to hydrocephalus.

Hydrocephalus acutus has been lately, and is now, generally described by our best authors (Ziemssen, Vogel and many others), for etiological reasons, as *meningitis tuberculosa*, or tubercular meningitis, the disease arising from a deposit of tubercles upon the meninges of the brain, particularly upon the arachnoid at the base of the skull; but it doubtless does occur *without* tubercular deposit, and this variety may be technically known under the title of *hydrocephalus acutus sine tuberculis.*

This last variety is described by Dr. West (4th Am. ed., 7th lect.) under the head of *encephalitis.* He there states that he has met with seven cases of *acute meningitis* which proved fatal, in five of which he confirmed his diagnosis by post-mortem examination.

Dr. West speaks of the disease as very rarely occurring except as the result of some injury. Exposure to heat has been known to induce it, etc. Meigs and Pepper (*Diseases of Children*, 5th ed.) describe this same variety of hydrocephalus as *simple meningitis*, and remark that for a long time it has been confounded with tubercular meningitis, and they quote largely from various authors, principally French, to show that this variety of meningitis was far less frequent than the tubercular, or as *seven to one.*

Vogel (second Am. ed.) makes mention of this form of hydrocephalus under the head of *meningitis simplex, purulentæ* and *encephalitis* (simple inflammation of the meninges and the brain). He states that it is a much rarer affection than meningeal tuberculosis, and no more frequent in children than adults; that it runs an extremely acute form, and usually proves fatal.

Hydrocephalus acutus sine tuberculis is described by Huguenin in Ziemssen's *Cyclopœdia* (vol. xii, p. 467) under the title of

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Leptomeningitis infantum (*i. e.*, inflammation of the thin membranes, arachnoid and pia mater, in the infant). He there remarks as follows: "When we examine the literature of the subject we find everywhere a lamentable and exceedingly confusing discrepancy of views. This seems to us to be due especially to the fact that too little attention has been directed to the etiology of the affection. There is no doubt that conditions of a very different character *may ultimately produce lesions exactly alike in gross anatomical appearances or only differing in unimportant details.* This does not, however, justify us in classing the different processes together."

Following out this view, Huguenin attempts further simplification of the subject (if not mystification) by introducing several other varieties of meningitis, namely, III. *Simple meningitis of the base.* IV. *Meningitis of the convexity, dependent on neighboring inflammatory conditions, e. g.*, inflammations arising from caries of the bones of the inner ear, etc. V. *Metastatic meningitis, e. g.*, that arising from pneumonia, measles, scarlet fever, etc. VI. *Meningitis of the convexity, due to external and unknown causes, e. g.*, all cases of meningitis are included under this head that cannot well be classed as due to some specific cause; most common among the poorer classes, who are ill-fed and of a nervous temperament. VII. *Traumatic meningitis, e. g.*, those cases which are the direct result of some injury, concussion or abscess of the brain.

Hydrocephaloid is a term first employed by Dr. Marshall Hall to designate a peculiar condition of the brain usually known as *cerebral anæmia* or *cerebral irritation*, due to any sudden and exhaustive drain upon the system of infants and teething children *e. g.*, exhausting diarrhœa, cholera infantum, etc., etc.

Although *hydrocephaloid* does not signify any distinct disease, but rather a condition or termination of another, it is well that the name should be employed and retained by the profession, since it is generally understood to represent a well-known condition of the brain, too often met by us all, especially by those practicing in crowded towns and cities.

Hydrocephalus chronicus (chronic dropsy of the head) is described by Vogel thus: "Theoretically, an *external* and an *in-*

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ternal, a congenital and *an acquired chronic dropsy* of the head are distinguished. Practically, however, these forms cannot be separated from each other, for it is impossible to assert, especially as regards the latter distinction, whether the child came into the world with a small effusion, which subsequently increased markedly, or whether it was first formed perfectly normally and only latterly became hydrocephalic. The external dropsy of the head is almost always congenital and usually complicated with hernia of the brain."

Congenital hydrocephalus exists in the fœtal skull and is thought to be due to some vice in the development of the brain or its membranes, or to pathological conditions arising in them during intrauterine life, and the child thus affected is said to by hydrocephalic from birth. *Acquired hydrocephalus* is that variety which gradually develops itself after birth, and is due to some peculiar dyscrasia, disease in which the brain or its membranes are involved, irritation during the process of teething, injury, etc. The size and shape of the head are not so materially altered in this variety as in the congenital.

External hydrocephalus is an expression used theoretically to distinguish an effusion into the arachnoid or subcutaneous cellular tissue of the cranium, and *internal hydrocephalus* an effusion into the subarachnoid spaces, ventricles of the brain, etc. Present writers make no such distinctions as *external* and *internal* hydrocephalus, and those terms may be regarded as obsolete.

We therefore find, after the above preliminary examination, that a practical presentation of the subject of diagnosis involves only three varieties which claim our special attention, *e. g.*, *hydrocephalus acutus*, which includes the tubercular and non-tubercular varieties (tubercular meningitis and simple meningitis), *hydrocephalus chronicus*, including the congenital and acquired, and *hydrocephaloid.*

The diagnosis of *hydrocephalus acutus*, *i. e.* leptomeningitis and tubercular meningitis, is often attended with great difficulty especially in abnormal cases. It may be confounded with typhus and typhoid fever and infantile remittent fever, simple hyperæmia or congestion of the brain, septicæmia, etc., etc.

Leptomeningitis and tubercular meningitis are not always

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easily distinguished from each other, but in the former the *prodromal* period is wanting, which should be regarded as an important diagnostic point when taken in connection with the etiology of the disease.

It is important to diagnosticate meningitis early, as its successful treatment will largely depend upon appropriate management and medication during its early stages. The *differential* diagnosis is often difficult and occasionally impossible in the premonitory or initial stage of the disease, but practically this is not a matter of such weighty importance to the homœopathic as to the allopathic physician, since the treatment by the former will depend more upon the symptoms which present themselves than upon supposed pathological conditions which govern the management of the case by the latter.

The greatest study, care and familiarity with the subject are requisite to avoid error in diagnosis in the premonitory stage of meningitis. The physician must not only be familiar with the leading symptoms, but he must weigh their importance, order of occurrence, and take time to observe the changing physiognomy of the little sufferer, and note the order of their appearance. More than one protracted visit is often needed to remove any doubt that may arise in regard to the nature of the disease and the pathological phase which it presents.

Meningitis is generally preceded and its onset attended by greater restlessness, fretfulness, intolerance of light and a wider variation of symptoms than most diseases. Indications of greater suffering, of more serious sickness than is usually present in other maladies which simulate this, will be evident to any one who is familiar with the physiognomy of infancy and childhood.

Headache and *vomiting*, without retching, and from no apparent cause, should arrest attention. Neuralgic pains in other parts of the body, when headache is absent, are also significant if the peculiar vomiting attends them. Meningitis may be divided *symptomatically* into three stages, (1) that of irritation, (2) that of pressure, and (3) that of paralysis.

In tubercular meningitis a period of invasion or prodromal stage may be noticed, varying greatly in length from a few days

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to a few months. Eminent French authorities give to this stadium a period varying from fifteen days to three months.

The symptoms present in the stage of *invasion*, although varying in many cases, are usually those indicative of failing health. The functions of nutrition show disorder. The appetite diminishes or is capricious, alternations of diarrhœa and constipation appear, the body grows thin, the color pales, the gayety of childhood is wanting, the child becomes listless, apathetic, complains of being tired and weak, or is irritable and feverish or too gentle and mild. Study and exercise are both distasteful, and there appears a weakness and debility which, though slight at first, soon arrests the attention and awakens the anxiety of the parents or attendants of the child.

Vogel says, "The most constant of these symptoms is a slowly progressive emaciation, which in a most remarkable manner entirely spares the face, so that the child when dressed presents nothing unusual in its appearance. But observing mothers and nurses *invariably* notice it, and the prominence of the ribs in particular excites their apprehension."

A peculiar lustre of the eyes is often noticed, the child sleeps more than usual, forsakes its amusement, becomes morose and timid and cries from the slightest cause.

Another marked point, the child does not attempt any of his former little braveries, such as climbing chairs, stair-railings, ladders, etc. Boys who were full of life and fight, at all times ready to defend themselves, now turn cowardly away, crying if their playmates trouble them in any way. Other children will not be left alone, but are constantly clinging to and kissing their parents. In older children memorizing becomes more difficult, and they express themselves in a hesitating, stuttering manner. They are absent-minded or indifferent, sleep much, fall asleep by day. They are restless during the night; sleep is broken and disturbed by dreams and exclamations of fright. The appetite is gone, though they may have longings for stimulating food, which, if furnished them they will not partake of save in small quantities. The thirst is not augmented, and the secretion of urine is but slightly diminished, being often rich in urates.

The only pain complained of is *headache* and, quite as often,

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abdominal pains, which are increased by pressure. This headache, in children old enough to locate and describe the pain, is an important symptom. This pain is not constant, but returns at intervals, is occasionally slight and again severe. Fever is not usually present until the more pronounced symptoms have fairly commenced, but if present is light and fleeting. The loss of strength is seldom so great in this stage, the prodromic, as to confine the child to the house, but he will often amuse himself and go out as usual, and for a short time appear much like himself.

A hasty and summary review of the mode of *invasion* in one out of several cases which have passed under my own observation may not be amiss.

In the month of March, 1875, Master W., a lad about six years of age, with light hair, blue eyes and scrofulous habit, addicted to enuresis, exhibited signs of failing health for some six weeks previously to the well-marked stage of *irritation*. The first thing which awakened his mother's attention was an inclination to not go out and play as usual with other boys, that he was disposed to remain in with her, was more restless by night, with loss of appetite in the morning and daintiness through the day. At times he appeared as if he had taken cold, had cough and occasional headache, with nausea and pain in the abdomen. Irregular attacks of fever were quite frequent in the evening, which would soon pass off, and in the morning he felt languid and often felt hardly able to attend school, but he was sent as usual, his mother thinking that he might feel better if he went. In the afternoon, however, he would appear exhausted, and act as if he was going to be sick, and remain at home. One afternoon his mother called with him at my office, but his appearance did not awaken my anxiety then, nor seem to claim special attention, as I thought all the symptoms might be due to vermicular irritation, or be produced by the second dentition, and prescribed accordingly.

About a week later I was called to see him in the evening. His symptoms indicated that he had taken cold. Had pain in head and bowels, with quite sharp febrile action. Gave Aconite, and next morning found him feeling nicely, and his mother

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thought him well. I gave him Cina^{200}, a dose to be taken at night, thinking that his sickness might be largely produced by the presence of worms, with which he had been troubled before.

A week now passed away, when I was called to see him again. He had now been sick for two days and unable to attend school. Complained of severe pain in forehead, persisting for hours, oftentimes so severe that he would cry right out. Pulse 120, slightly variable. The little patient was nervous, irritable and very restless during the night, complaining bitterly at times of his head, and in the morning would appear better. Fever still continued in a mild degree by day, with intervals of exacerbation and sudden flushes of heat to the face and head.

Occasionally vomiting occurred, and the bowels were constipated. This stage continued for some twelve days, the symptoms becoming more strongly marked and significant; the pain in the head persisting all the while, with intervals of ease.

The color of the countenance was alternately pale and then flushed more or less, and I often noticed a peculiar stuttering while attempting to speak. At the close of this stage the pulse became slow and very variable, respiration irregular, and the intellectual faculties clouded and dull, which with the peculiar *encephalic* cry warned me of the approaching second stage (pressure) and death of my little patient, which occurred in some ten days later from paralysis.

The prominent symptoms which characterize tuberculous meningitis (hydrocephalus acutus) in its three stages, may be expressed as follows, allowing somewhat for variations or divergencies:

1. *Stage of Brain Irritation.*—Headache, vertigo, constipation, vomiting, retraction of abdomen, increased temperature of the skin, commencement of the cephalic pulse, great excitement, alternating with somnolence, delirium and convulsion in some cases.

2. *Stage of Pressure.*—Marked symptoms of pseudo-cephalic pulse, constipation, retracted belly, sopor and coma, contraction of the muscles of the back of the neck, facial paralysis and lesion of various nerves of the eyes, tongue and face, hemiplegia, convulsions and sudden changes in the child's general condition.

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3. *Stage of Paralysis.*—Coma, great acceleration of the pulse, which grows irregular, relaxation from cramps and contractions, tumefaction of the abdomen, increase of various paralyses, marked variations in temperature up or down, which, with the unrhythmical respiration and profuse perspiration that now appears, mark the agony of death.

The duration of these stages may be approximately stated at from eight to fifteen days in the first stage, from seven to ten days in the second, and not more than forty-eight hours in the third or last stage.

The first stage may be regarded as the affection of the pia mater, of the convexity and of the surface, the second of the hydrocephalic effusion, and the third stage a gradual paralysis of the centres of the medulla oblongata. Remembering that the real beginnings of meningeal affections must appear under a variety of phases, I shall briefly sketch the leading symptoms as they bear upon diagnosis.

Headache.—This is usually a constant and prominent symptom, and continues with varying intensity so long as consciousness or intelligible signs remain. The whole head is, in most cases, the seat of the pain; occasionally only is it confined to the frontal region. The patient when old enough can express the seat and nature of the pain, but in infants and young children its presence is inferred by the wrinkles and distortions of the forehead and face, the placing of their hands to the head, the picking and digging at the ears and the rolling of the head from side to side, with frequent moans and piteous cries.

Vertigo.—Sensitiveness to light and noise can always be noticed. Patients complain of fear of falling, everything reels about them, all their surroundings appear on the move and they exhibit an unsteady and faltering gait when attempting to walk.

Vomiting.—This is a leading symptom. Vogel says: "It is a remarkably constant symptom, and usually comes on so early in the disease that the *diagnosis* may be established by it much earlier and with greater precision than by any other symptom."

It may last for only a day or two, or continue throughout the entire course of the disease. It is the *manner* in which the child vomits which marks its value in diagnosis. Children suffering

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from indigestion have nausea, eructations, retchings and cold sweats before actual vomiting, but hydrocephalic children vomit without any warning. Solid nutriments and usually liquids are ejected from the stomach as soon as introduced, without any retching or apparent distress, and generally as taken, with no admixture of bile.

Constipation.—Many regard this symptom of more value than either the headache or vomiting as an aid to correct diagnosis. It is invariably persistent, obstinately so, although it may give way to diarrhœa at the termination of the disease. Diarrhœa, in rare cases, may be present in the commencement of the disease, and when so it is the result of tuberculous disease of the intestines.

Psychical Functions.—The child is dull and sad or irritable and excited by turns; it shuns the light and contracts the brows when the sunlight falls upon the face. Again, the eyes stare, without expression, into vacancy, while the patient laughs, laments, counts or talks without sense to himself, and makes movements equally meaningless, such as picking at objects, bedclothes, etc., for hours together. The hearing is painfully acute, all jarring sounds appear to disturb it; the sleep is restless and attended by grinding of the teeth. Delirium is common when the patient is half asleep, and it frequently utters a peculiar sharp, shrill shriek, known as the hydrocephalic cry, both when asleep and awake.

The intellectual faculties usually remain undisturbed during the first few days of the disease, but occasionally from the first hesitancy of speech may be noticed, and a peculiar look or expression of the countenance indicative of astonishment or the greatest indifference. The look is fixed or staring, as in a mild ecstasy.

When these symptoms occur at an early stage of the disease, they often alternate with the most perfect clearness of the mind. I recall a case not long since in a lad six years of age, who appeared so nicely whenever I saw him that I was almost led to doubt the mother when she related to me his piques and appearance during my absence.

At first I thought the mother's anxiety might largely account

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for the child's changing condition, but in a few days the progress of the disease was so marked that I could not mistake it. I had all the symptoms of tubercular meningitis to contend with.

The *coloration* of the face is important. It is usually paler than natural; occasionally a sudden flush or redness may be seen to pass over it. The sense of *touch*, *sight* and *hearing* are generally exalted, and, as the disease advances, the *respiration* becomes irregular and unequal, and is often interrupted by a yawn or sigh.

Convulsions and Contractions.—General convulsions are rare in the early stage, but partial appear in the tremor, turning and twisting of the eyeballs, producing various convergences and divergences of the eyes. Grinning, contortions of the muscles of the face and grinding of the teeth are common. Two very important diagnostic points early show signs of their presence, namely, the *stiffness* of the muscles of the nape of the neck and the back, and the *retraction* of the abdominal muscles, so that its walls approach the spinal column, and a slight pressure will enable one to feel the pulsations of the aorta. Belly like a boat. These last symptoms come on gradually.

Pulse and Fever.—The pulse at first is slightly accelerated, sometimes in children to 120 and 140, not full and tense but soft and compressible. It is subject to marked variations from muscular exertion or psychical excitement, causing its sudden rise. The fever is also very inconstant and presents no typical curves. Evening exacerbations, however, are common. Temperature varies in the morning from 100.5° F. to 101.5° F., in the evening, 102° F. to 103° F. Sweating is not common in the early stage, but lividity and dryness of the skin are prominent.

The *pulse*, as the disease advances, becomes much slower, often sinks to 50 or 60 and even lower. It is now fuller and more jerky; slight excitement will run it up forty or fifty beats. The temperature now does not correspond to the pulse; the *higher* the temperature the *lower* the pulse, and *vice versa;* as for instance, pulse 60, temperature 102° F., pulse 100, temperature 100° F.

With the sinking of the pulse comes its marked irregularity,

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and this irregularity affects its force and even frequency, so that a strong pulsation is succeeded by a feeble one; and this irregularity varies at different hours of the day or even at short intervals, now slow and in a moment accelerated. This *slowness* and *irregularity* of the circulation is highly valuable and important as a means of diagnosis, since it is rarely noticed as a permanent condition, except in tubercular inflammatory affections of the brain and its appendages.

Just before death the pulse rises to 140, 160 and more, while the temperature may sink to 95° F., or remain in rare cases without change or rise with the pulse. Profuse perspiration covers the entire body, and the abdomen, so long contracted, becomes bloated and tympanitic during the agony of the last two or three days. The tongue, moist and white at first, is now dry, and the mouth, teeth and gums are fuliginous; the respiration stertorous, unequal and attended with extreme dyspnœa.

The *decubitus* of the meningitic child is significant and diagnostic in the early part of the second stage. It lies upon the side with the thighs flexed upon the pelvis, the legs upon the thighs and the arms against the thorax, with the elbows bent and the hands placed in front. At a later stage the decubitus is dorsal.

Paralysis of various nerves and muscles also have their value, as of the eye, face and tongue. Obliquity of the tongue is not regarded as so constant an affection as the facial distortion. Paralysis of both extremities on the same side is not common, but paralysis of one and paresis of the other is usually observed.

The changes of the eyes are important aids to diagnosis. In the early stage of the disease the pupils dilate perceptibly from day to day, and in the later stage of the disease the *inequality* of the pupils is very marked, and the strongest light fails to make the slightest impression.

The retina exhibits stasis and dilatation of its veins, giving a hæmorrhagic appearance. The secretion of the conjunctiva and Meibomian follicles is poured out in large masses of mucus, which collect at the inner angle of the eye.

The urine shows a decrease in quantity and increase of specific gravity. Albumen is often present, but not constant. The phos-

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phates and urates are usually increased, but no diagnostic value can be assigned either to their presence or absence.

In a majority of cases it is not difficult to arrive at a correct diagnosis, but in anomalous cases we must be satisfied with an approximative one, especially in the first stages of tubercular meningitis.

Tubercular meningitis is most liable to be confounded in diagnosis with leptomeningitis (*meningitis simplex*) and typhoid fever. It is possible that some of the cerebral symptoms which pneumonia and some of the exanthemata present may be mistaken for it, although hardly probable.

The *differential diagnosis* of tubercular meningitis and leptomeningitis may be best understood or represented by a differential statement of symptoms peculiar to the two diseases, which I have largely drawn from various authors.

Leptomeningitis. (*Simple Acute Meningitis.*)	*Tubercular Meningitis.*
1. The subjects of leptomeningitis are usually robust and well-developed, and present *no* traces of tubercular disease; children born of healthy parents.	1. Subjects of tubercular meningitis are delicate and puny, often exhibiting precocious intellect. Occasionally have had, in infancy, enlarged glands or chronic cutaneous eruptions; the parents or brothers and sisters often exhibit the signs of tubercular disease.
2. The disease may prevail epidemically, and has *no* prodromal period.	2. Disease always sporadic, and has a *marked* prodromal period.
3. *Conditions prior to Invasion.* The disease begins in the midst of perfect health, or, if secondary, it occurs in the course of ordinary convalescence from some acute non-tuberculous disease, or it follows an external cause.	3. *Conditions prior to Invasion.* For some weeks or months the patients grow languid, become pale, lose their strength, emaciate, their temper changes, they are dull, appetite is gone and digestion deranged, etc. It is rare that prodromic symptoms are absent.
4. *Mode of Invasion.* Violent convulsions, attended with marked febrile action and with very hurried respiration in young infants,	4. *Mode of Invasion.* Never with convulsions at the outset; the change from the prodromic to the acute stage sometimes imper-

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4. *Mode of Invasion.*	4. *Mode of Invasion.*
or very acute frontal headache, accompanied by fever and bilious vomiting.	ceptible; it takes place by a progressive increase of the symptoms before mentioned, and by the setting in of headache. In other cases is better marked by headache, vomiting and constipation; generally the intelligence remains clear; no ataxia.
The onset of acute meningitis is sudden, and towards the end of the first or in the course of the second day at the latest, excessive restlessness preceded or not by somnolence, violent delirium and prominent ataxia.	In the rare cases in which there is ataxia at the outset of the acute symptoms, the prodromic stage above described has been noticed, or the meningitis has followed in the course of advanced phthisis.
	In cases in which no prodromes exist the meningitis begins with vomiting, constipation, moderate headache and slight febrile action.
	Ataxia, if it is to appear, comes later, and a mistake in diagnosis is hardly possible.
5. *Symptoms.*—Very intense headache, *obstinate* vomiting, moderate constipation, *violent* fever, high delirium.	5. *Symptoms.*—Not very intense headache, vomiting *less frequent, very obstinate* constipation, *very moderate* fever, slowness and irregularity of the pulse, delirium usually mild.
6. In the commencement the disease presents a grave aspect, ataxic in its character.	6. Invasion insidious, with the aspect of a *mild* disease.
7. It runs a rapid course, with progressive and continuous aggravation; convulsion after convulsion or else violent delirium; extreme agitation; violent fever, etc.	7. Course slow; the intelligence is often preserved to an advanced period; fever mild, attended by some slowness and irregularity of the pulse; sighing; changing of the color of the face; eyes dull or ecstatic.

Duration of the Disease.—In simple acute meningitis it occasionally lasts not more than twenty-four or forty-eight hours, usually lasting from two to eight days. In tubercular meningitis, regular form, the duration is much longer, from two or three weeks to as many months in some cases.

Tubercular meningitis can usually be distinguished from typhoid fever by the antecedent history of the patient, its tubercular diathesis, by the symptoms of invasion, which, in menin-

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gitis, consist of headache, vomiting and constipation, but in typhoid fever the headache is *less* persistent, the vomiting less frequent or entirely absent, and the constipation replaced by diarrhœa. In typhoid fever the pulse is frequent, full and regular, while in tubercular meningitis it is less frequent and full, and after a few days is accompanied by slowness and irregularity. In meningitis the constipation is obstinate and the abdomen *retracted;* in typhoid fever there is diarrhœa and the abdomen is *distended* and *meteoristic.*

The well-developed rose-colored spots upon the abdomen are characteristic of typhoid fever. Great assistance may be obtained by a careful examination of the course and changes of temperature in the two diseases.

In tubercular meningitis, instead of the gradual advancement of the fever with regular evening exacerbation, which is so characteristic of typhoid fever, the temperature exhibits *great* and *irregular* variations; it is especially marked by a curve downward to 97° F. or lower, corresponding to the middle stage, and then an upward curve and final rise, which may continue increasing till the last day of life, or be superseded by an *algid* state, with very marked lowering of the surface of the body.

Many other differential points might be noticed, such as the condition of the tongue, thirst, tenderness of the abdomen and the age of the patient, but time forbids. I shall not speak of the *possibility* of confounding this disease with the exanthemata, septicæmia, or pneumonia of the apex of the lung.

Chronic Hydrocephalus.—The differential diagnosis in well-pronounced cases of this disease presents no difficulty. A diagnostic error is hardly possible; but, on the contrary, when the effusion of water is slight, the disease often affords no striking symptoms and may be confounded with hypertrophy of the brain or rachitis of the skull.

In the congenital variety the effusion is present at birth, or accumulates subsequently to it, and the same tendency to enlargement of the head and separation of the cranial bones exists in either case. While the volume of the head progressively increases, the trunk and limbs emaciate. The base of the cranium undergoes little change, but those portions of the frontal,

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parietal and occipital bones which constitute the *arch* are expanded in all directions; they also become much thinner. In congenital hydrocephalus the shape of the orbital plates of the frontal bone is changed so that the eyeballs have a downward direction.

The change in the axis of the eyes occurs at an early period of the disease and continues throughout its entire course, becoming more and more marked as the fluid increases. The enlargement of the head, when occurring with a persistent downward direction of the eyes, is characteristic of this disease and is an *important* diagnostic sign.

The bones of the face are usually less developed than in healthy children of the same age, so that the disproportion between the head and face exhibits a marked peculiarity. The shape of the forehead and face is nearly triangular. Emaciation of the neck and inability to support the head steadily increases with the disease and becomes a marked feature. As long as the cranial bones yield to the pressure from within, there is no compression of the brain, and its functions are not seriously impaired. Occasionally a slight convulsion occurs, but later when the brain begins to be compressed dangerous cerebral symptoms appear.

The child is lethargic and the pupils are unequally dilated and act feebly to light. Strabismus is common, and as a fatal termination approaches the convulsions are followed by coma.

Acquired hydrocephalus or dropsy of the brain may also occur in those who at birth were free from disease and well formed. It is usually the result of some other disease, which may be located within or about the cranium, or even in some remote part of the body. The morbid alterations of the brain are less striking than in the congenital variety. The quantity of serum will depend upon the condition of the cranial bones at the commencement of effusion, whether any and which sutures are ossified, so that a divergence of the cranial bones can take place. The earlier the effusion takes place the larger will the cranium become. It is always largest in those cases where the exudation begins in utero, and the smallest in cases arising after the sutures have been closed.

The functional disturbances in chronic hydrocephalus are

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numerous and various. I have at present under treatment four cases, no two of which exhibit the same symptoms. Headache is a prominent symptom in children old enough to speak or show intelligently the seat of their pain. The suffering child is irritable, and often wandering, occasionally delirious. The head seems too heavy and is buried in the pillow. As the disease advances, the convulsive movements increase, the features become pallid, the pupils sluggish, and consciousness disappears, soon to be followed by coma and death.

When there is present only a small amount of liquid effusion in hydrocephalus it may be confounded with hypertrophy of the brain, but in the former case there is usually more rapid growth and greater expansion of the head, besides the enlargement is in all directions, while in hypertrophy, although all the parts of the cranial vault are expanded, the enlargement is more marked in the *vertex* than elsewhere.

The diagnostic sign of the greatest value is the direction of the axis of the eyes, which in confirmed hydrocephalus is always downward, and in hypertrophy the axis is unchanged.

The differential diagnosis of rachitis and hydrocephalus is based upon the shape of the head, being round in the former, square or with prominences in the latter. Also upon palpation, direction of the eyes, etc. The temporal bones in chronic hydrocephalus are always directed outward, while in rachitis they stand perpendicular, even when the anterior fontanelle has become very large. In rachitis there is an absence of the functional disturbances peculiar to hydrocephalus, and the presence of the peculiar hypertrophic condition of other portions of the skeleton, thorax and extremities. I shall dismiss the further consideration of this portion of the subject by saying that a mistake in the differential diagnosis of chronic hydrocephalus seems hardly possible.

Hydrocephaloid, Spurious Hydrocephalus.—Dr. Hall was the first to call the attention of the profession to this peculiar affection, which he divided into two stages: 1. The stage of irritability. 2. The stage of torpor. In the first stage there is a feeble attempt at reaction, but in the second stage the vital powers appear exhausted.

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Dr. Hall says: "These two stages resemble in many of their symptoms the first and second stages of hydrocephalus respectively. In the first stage the infant becomes irritable, restless and feverish; the face is flushed, the surface hot and the pulse frequent; there is undue sensitiveness of the nerves of feeling, and the little patient starts upon being touched or from any sudden noise; there are sighing and moaning during sleep, and screaming; the bowels are flatulent and loose, and the evacuations are mucous and disordered. If through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or the disease continues spontaneously or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale and the cheeks cool or cold; the eyelids are half closed; the eyes are unfixed and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing from being quick becomes irregular and affected by sighs; the voice becomes husky, and there is sometimes a husky teasing cough; and eventually, if the strength of the little patient continues to decline, there is crepitus or rattling in the breathing. The evacuations are usually green; the feet are apt to be cold."

The above description by Dr. Hall by no means gives a complete picture of this highly important affection, but it will serve to fix some of its most salient and diagnostic points.

It is an affection adynamic in character, and although it may occur rather suddenly it never appears *primarily* in children of robust constitutions. It is the feeble, delicate and exhausted who are subject to it, and in a large majority of instances it appears as the sequel of other diseases. Diarrhœa is undoubtedly its most certain forerunner, but other diseases or accidents which produce rapid exhaustion and loss of nervous power predispose to hydrocephaloid disease.

Bearing in mind the above description, when cerebral symptoms appear in young children in the course of exhaustive disease, whether those symptoms occur suddenly and severely or more gradually and with less severity, the patient gliding quietly

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into them, the true nature and character of the affection can hardly be mistaken by the careful observer and diagnostician.

This disease occurs principally in infants and young children, especially infants under one year of age, after the system is wasted by other exhausting diseases, such as diarrhœa and cholera infantum.

Among the prominent diagnostic points should be mentioned a constant rubbing of the head to and fro, or a boring of it into the pillow, so that the occiput is often deprived of hair. Many children strike the head with their hands, pull their hair and ears and even scratch their faces till they bleed, and cease to note objects or persons around them. The eyelids are half closed, and usually the globe is turned upward. The upper extremities are usually flexed, the thumbs drawn into the palms and the fists firmly closed. The lower extremities are also rigid, either extended or contracted, and the muscles of the nape so contracted that if the child is laid upon the side the body will curve far backward.

Hydrocephaloid children vomit their food or drink immediately after taking it, and usually without retching or exertion. The temperature of the heads of those children who have become atrophic on account of profuse diarrhœa, and in whom cerebral symptoms have appeared, will be elevated, the anterior fontanelle depressed, the cranial bones overlapping each other, exhibiting all the symptoms of cerebral atrophy.

The appetite fails or is slight in a majority of cases, or else a deathlike hunger comes on and lasts till the child cannot swallow, and death ensues. The pulse, unlike that in tubercular meningitis, is extremely rapid, the respiration accelerated and unrhythmical. In the first stage the child will cry continuously for days and nights in many instances, but in the second stage it is only able to utter low moans or single abrupt ones. Then follows the restlessness of exhaustion, next sopor and coma, finally death.

Such is a hasty summary of those cases not recognized and arrested by appropriate treatment ere it was too late.

The only disease with which hydrocephaloid is liable to be confounded is meningitis. The differential points in diagnosis

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are the history of the cases, especially the antecedent diarrhœic or other exhausting malady which induced prostration previous to the appearance of cerebral symptoms, with cold face and extremities.

The differential diagnosis of hydrocephaloid or hydrocephalus acutus (tubercular meningitis) may be briefly tabulated as follows:

Hydrocephaloid.	*Tubercular Meningitis.*
1. *Age.*—*Usually* under one year of age, *rarely* over two.	1. *Age* —Rarely under one year of age, usually from two to eight years.
2. Disease may appear as an epidemic, rare except during the summer and autumn.	2. Disease sporadic, and occurs at all seasons.
Mode of Invasion.	*Mode of Invasion.*
3. Follows after some exhausting disease, such as diarrhœa, etc.	3. A primary disease, ushered in by well-known prodromic symptoms.
4. *Symptoms.*—Vomiting and diarrhœa, with rapid exhaustion of vitality.	4. *Symptoms.* — Headache, vomiting and obstinate constipation.
5. Fontanelles depressed and motionless.	5. Fontanelles prominent and frequently pulsating.
6. Pulse feeble and rapid, but regular.	6. Pulse *irregular.* At first accelerated, then retarded and finally greatly accelerated.
7. Abdomen normal or tumefied.	7. Abdomen retracted and boat-shaped.

I have thus attempted, with some minuteness and no little detail, to simplify and make possible the diagnosis of the several varieties of cerebral disease presented for your consideration by the Bureau of Pædology. How well I have succeeded I must leave for you to judge.

In closing, permit me to say that only those who take special interest or exhibit an *innate natural love* for the little child, and not those who are strangers to the freemasonry which instinctively tells the little child of that love, will ever become skilful as diagnosticians in the brain diseases of infancy and childhood.

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X.

PATHOLOGY AND MORBID ANATOMY OF HYDROCEPHALUS AND HYDROCEPHALOID.

By C. D. Crank, M.D., Cincinnati, O.

Pathology presents no more interesting or intricate subject for investigation than the diseases peculiar to the cerebro-spinal system. We find this especially true of infants and children.

The term hydrocephalus is applied to an affection of infancy and childhood, indicated by an effusion of serum within the cavity of the skull. We find it existing under many forms and conditions, admitting of much conjecture as to cause, differing very much in its progress and presenting pathological alterations of no uniform character.

With infants and children the rapidity of physiological processes, and the delicate structure of the brain and nervous system, render this portion of the organism very susceptible to disturbing influences, and a correct understanding of them no easy matter, for frequently different pathological conditions are found to exist even when attended by the same phenomena or train of symptoms. The uncertainty of symptoms in their relation to pathological conditions, together with the difficulties attending post-mortem examinations of so vascular an organ as the brain, tended to mislead old observers, for when influenced by symptoms alone, that non-inflammatory disease now known as hydrocephaloid they diagnosed as acute hydrocephalus, and when gov-

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erned by what appeared as the leading pathological condition, pronounced that inflammatory affection, meningitis, to be a simple serous effusion. As the study of pathological anatomy became a science, taking the place of inferences from symptoms and superficial examinations, important discoveries have been made, gradually bringing these difficult problems within the range of medical solution. While thus enabled to account for much of the phenomena and changes incident to these conditions, we must acknowledge with Virchow that we are as yet very far removed from a generally sufficient *cause*.

The most important maladies attended by effusion within the skull are:

Acute hydrocephalus,
Simple tubercular hydrocephalus,
Chronic hydrocephalus,
Acquired hydrocephalus,
Congenital hydrocephalus and
Hydrocephaloid.

The morbid conditions existing within the skull which most frequently produce effusion are meningeal inflammation, tumors and other causes obstructing circulation.

Causes external to the brain resulting in effusion are enfeebled heart action, enlarged glands and tumors obstructing the flow of blood to the brain, and the depleting, exhausting maladies of infancy and childhood. To these we may add constitutional dyscrasias, assuming a local expression in the brain, either primary or secondary.

The pathology and anatomical changes depend upon the exciting causes, and yet in many instances it is no easy matter to diagnose these different conditions as classified either from symptoms or post-mortem examinations. For instance, in the "acquired" form, the effusion, gradually encroaching on the blood-vessels, obstructing the supply of arterial blood to the brain, results in a train of symptoms resembling meningitis, and examinations after death might not reveal any fact which would enable us to distinguish it from hydrocephaloid. Again, we find cases in which effusion into the ventricles or into the cavity of the arachnoid is unaccompanied by any morbid appearance of the brain or

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its membranes, though the symptoms might indicate extensive brain lesion. It is this unreliability of symptoms and want of true relation between symptoms and extent of lesion that has led to the different semeiological classifications; and in considering the pathology and anatomical changes of hydrocephalus as classified, we shall point out conditions, but in many instances it will be found one of degree rather than of kind.

Acute.—Until a few years since "acute hydrocephalus" was regarded as serous effusion, unattended by any marked inflammatory complication; but a better understanding of morbid anatomy and pathology has revealed to us the fact that it exists in two forms; further, that it is not necessarily confined to infants and children. These two forms are independent of each other as to cause, and though much resembling each other in objective manifestations, present anatomical changes and lesions entirely different and distinct. They are classified as simple and tubercular.

Tubercular.—The anatomical seat of the tubercular form is at the base of the brain, where in addition to the result of inflammation, which usually is of a passive nature, the membranes present a peculiar granular appearance. The nature of this granular deposit was for a long time a matter of doubt, whether tubercular or a distinct morbid product. Further examination has pronounced them tubercular in character. The question which also accompanied them, whether the inflammation preceded the deposit or *vice versa*, has been decided in favor of the prior appearance of the tubercle. These tuberculous deposits are found chiefly along the course of vessels, mostly seen about the pons or imbedded in the pia mater, in the neighborhood of the optic nerve. Sometimes, though very rarely, they are found on the convexity of the brain. On opening the skull the dura mater is usually found in its normal condition. The arachnoid which lines the dura mater is not altered beyond a dryness and loss of its usual transparency. About the pons and optic nerve we observe the most marked changes. The arachnoid is dry and opaque, pia mater more or less inflamed, and thickened by the infiltration of serum or plastic and purulent exudation of a peculiar yellowish color. This exudation is sometimes considerable in the meshes

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between the pia mater and the arachnoid, especially about the optic chiasm. The ventricles are usually distended by fluid of a transparent nature, resembling the passive effusion of other serous membranes. When the effusion exists to any great extent, the septum lucidum is ruptured, the brain becomes compressed, the convolutions flattened, and the substance itself undergoes a softening process, even to a semifluid state. The walls of the ventricles, but more especially of the fornix and corpus callosum, are so softened as to break down on the slightest touch. It may extend to the cerebellum or even involve the whole brain. The more extensive the effusion in the ventricles, the more bloodless and pale do we find the brain, and whiter appears the softened parts. This form of hydrocephalus is seldom ever a primary disease, but a local expression or manifestation of some constitutional trouble, generally of a tubercular nature. Examinations of other organs usually reveal similar deposits. No organ is exempt.

If we now turn our attention to the simple form and its pathology, we will discover it to be an idiopathic affection, the anatomical seat of which is at the *convex surface of the brain*, and usually gives evidence of extensive inflammation. On opening the skull we find the cerebral membranes very much injected, with small ecchymosed spots and considerable effusion of lymph and pus, sometimes forming a layer concealing the convolutions from view. The inflammation may be so extensive as to affect the cortical substance, resulting in breaking down, softening, and covering the basal surface of the brain with a layer of pus. Effusion is frequent, but rarely exceeding an ounce. In character it is turbid and mixed with pus, thus differing from the tuberculous form both as to nature and quantity. Sometimes when the case is protracted, the arachnoid is found adherent to the dura mater, the pia mater thickened and occasionally transformed into a firm membrane, which on removal is apt to lacerate the brain.

An interesting question connected with the pathology is to determine from the symptoms which form of hydrocephalus we have.

In the "simple" form we found the anatomical seat of the trouble to be at the *convex surface of the brain*, and as this portion is intimately related to the intellectual functions, if the child

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be of sufficient age we will find this class of symptoms to predominate, as delirium and irrationality of language. If it be of the "tubercular" form, located as it is at the *base of the brain*, we will observe muscular contractions, spasms and paralysis. When the trouble involves *both* portions of the brain, as it sometimes does, both classes of symptoms are present. This reference, as Jaccoud remarks, is not without exception, for it sometimes happens that symptoms are not in any direct relation with the seat of lesion; another problem remaining to be solved.

Chronic.—Occasionally both of these forms of hydrocephalus are protracted in their course, taking on that form termed "chronic hydrocephalus." This condition is met with in infants and children at various ages, and coming on from a variety of causes. Authors and observers greatly differ as to its nature, some regarding it as a mere increase of fluid from functional activity, and term it "dropsy of the brain," while others attribute it to brain malformations, and others to inflammation of the ventricular walls during fœtal life. Doubtless all are correct. According to Breschet the effusion may be found

1st. Between dura mater and cranium.
2d. Between dura mater and parietal arachnoid.
3d. In the cavities of the arachnoid.
4th. In the cavities of the ventricles.
5th. Between the arachnoid and brain.

When it collects within the sac of the arachnoid it is termed external hydrocephalus, when in the ventricles it is termed internal hydrocephalus. The internal form is by far the most frequent.

Congenital.—When it is congenital, taking place before the cranial bones are united, the enlargement of the head is one of the most prominent anatomical features. The enlargement may vary from a few inches to two feet in circumference. It is mostly confined to the vault of the cranium, the base usually preserving its normal proportion. The frontal and parietal bones most frequently enlarge, become thin and almost transparent. "The most important deviation is that of the orbital plates, which are either drawn downwards, presenting a plane surface oblique from before backward, or they may be perpendicular, or even convex,

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bulging into the orbit so as to reduce it to a mere chink." This anatomical feature is always associated with *dropsy of the ventricles*. In arachnoid dropsy the fluid is limited to the upper and lateral part of the surface of the brain, and therefore cannot press upon the bones at the base. This orbital deviation, says Hewitt, may be recognized during life. The eyes are more or less drawn out of their sockets, having a marked downward direction. A good part of the eye is hidden beneath the lower lid and the white of the eye much more uncovered than usual. Alteration of skull contents depend upon the nature of the exciting cause and the amount of serum present, which may be from a few ounces to six or even ten pounds. There is an instance in which the effusion was so great as to compress the brain until hardly a vestige of it remained. When the effused blood is contained in the ventricles, these cavities are dilated, the convolutions of the brain flattened, corpus callosum raised, septum lucidum torn, or the gray commissure destroyed and the white commissure elongated to the extent of an inch, so that the ventricles communicate. The parts at the base of the brain are also altered, the corpora striata and optic thalami scarcely having an existence. Dr. Bacon states a case in which the brain, membranes and dura mater had ruptured, and a probe passed easily through the ethmoid bone into the nose, by which orifice a considerable dribbling of the fluid took place during life.

If the chronic condition succeeds the acute form, we find indications of inflammation; if it follows the "tubercular," granular deposits are absent. At other times the membranes do not present any alteration, not even distension. The dura mater is unchanged, arachnoid a little whiter, the pia mater thinner, or the membranes may be a little thickened. The compression of the brain from accumulation of fluid has been found to affect the circulation and nutrition of the fundus of the eye in a peculiar manner, which when inspected by the ophthalmoscope is of material aid in diagnosis. According to Dr. Bouchet, these changes are in proportion as the fluid collects and pressure increases.

1st. We see greater vascularity of the papillæ and choroid, with distension of the veins, which preserve their normal color.

2d. An increase in the number of vessels of the choroid.

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3d. A partial or complete infiltration (serum) of the papillæ.

4th. Atrophy of the choroid and its vessels.

5th. More or less marked and at times complete atrophy of the optic nerve.

Doubtless this valuable instrument will continue to reveal to the profession further information, assisting us in diagnosis and to a better understanding of these peculiar maladies.

Another form of hydrocephalus is that known as the "acquired."

By it we understand an effusion which occurs in the skull of those who at birth are perfectly developed and apparently free from disease. It may be due to increased lateral pressure on the vessels, to an abnormally slight amount of albumen in the blood, or to disturbed nutrition and other causes; that dependent on malnutrition is closely allied to what is known as hydrocephaloid. The effusion in the "acquired" form usually takes place after the bones of the cranium are united; consequently the form and shape of the head remain unaltered. The effusion may take place either in the subarachnoid space or in the lateral ventricle, and over the surface of the brain. Effusion into the subarachnoid sac is rare, and when it is found it is difficult to determine the amount, since on removing the brain it becomes mixed with fluid from the subarachnoid space. The nature of the effusion corresponds with that from serous membranes in general. The anatomical changes depend upon the existing cause or causes, and amount of effusion. When effusion is considerable we find, as in other forms, flattening of convolutions of the brain from compression, and at times evidence of inflammation. The softening power may exist, the brain being converted into a white pulp. Usually, however, the brain remains intact; the membranes unaffected, save from the pressure. In hydrocephaloid we find a condition differing in some particulars from anything we have yet considered. For a long time this affection was regarded as inflammatory in its nature, but investigation has established the fact that it is neither idiopathic nor inflammatory. That the quantity of blood within the cranium can be diminished as well as increased admits of no doubt, and that the symptoms and conditions attending cerebral hydrocephaloid indicate *cerebral*

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anæmia, are equally certain. The marked paleness, pinched features, prominence of frontal and temporal veins, depression of the fontanelles, at times overlapping each other, are common to cerebral anæmia from many causes, and the pathological conditions found to exist are common to all. This was first described by Dr. Gooch, though previously noticed by others. From its resemblance to some forms of hydrocephalus it was named hydrocephaloid by Marshall Hall. This trouble as limited to infants and children is always associated with and exists as a result of the depleting diarrhœic summer complaints so peculiar to them. That disturbed nervous conditions may be the primary cause in many instances admits of no doubt. That constitutional defects may produce the condition leading to it is equally true. But whatever the primary or exciting cause may be, the condition of the brain and membranes is that of exhaustion or "anæmia," and may be regarded as a disease of nutrition. The anatomical changes depend upon the age of the child and severity of the case. Sometimes when the infant is very young and the course of the disease rapid, no alterations are observable even where the symptoms would indicate extensive brain complications. If, however, the case be prolonged, we will find the scalp bloodless, fontanelles depressed, brain small and soft, the *gray* matter white and the *white* matter milky-white. On cutting into the brain very few, if any, clots appear, the bloodvessels are empty, thin and collapsed, usually an effusion over the surface of the brain exists, and sometimes an increased quantity of serum between the subarachnoid spaces, the ventricles more or less enlarged from effusion, the amount being variable, usually not exceeding two or three ounces, and in character resembling the usual serous effusions. In hydrocephaloid both the symptoms and post-mortem examinations indicate exhaustion, great depression of the nervous system and loss of vital power. There is no disease in which these conditions are so strongly marked.

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XI.

THE PREVENTION OF HYDROCEPHALUS AND HYDROCEPHALOID.

By T. C. Duncan, M.D., Chicago.

The adage, "An ounce of prevention is worth a pound of cure," comes with tremendous force when applied to an affection that is difficult of cure and almost essentially fatal in its onset.

It is a peculiarity of homœopathy that it alone attempts the prevention of disease by remedies. To cure any disease, and sepecially hydrocephalic affections, is an achievement worthy of praise, but to step out and ward off its approach is an honor a thousandfold more glorious.

Prevention of Hydrocephalus (Acute, Chronic and Congenital).

A brief survey of these affections is necessary to a proper understanding of the wonderful triumph of prophylactic means.

What is hydrocephalus? What do we prevent, and how do we prevent it? All very pertinent queries. Historical statistics relate the interesting and complicated discussion on intracranial effusion. From the papers on differential diagnosis and pathology you will no doubt learn that "water in the head" is met with as a result of many different diseases. It being a symptom, the more modern writers attempt to discard hydrocephalus as a distinct disease. The same is true of hydrocephaloid. Change

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of name does not, however, prevent the disease expression under consideration.

Neither inflammation nor anæmia will account for the congenital form, nor why it is met more frequently in one locality and in a certain constitution than in others. Bennett states that one-third more cases are met in London than in other cities of Great Britain. It is a disease of childhood, and, as Grauvogl has pointed out, is met with in those of the hydrogenoid constitution. It prevails in that class of subjects and cases where there is effusion and no absorption. Effusion and absorption is the normal process going on in all parts of the body and especially on all serous surfaces. Then the nature of disease under consideration is one of obstruction of the absorbent or rather reabsorbent lymphatic system. To prevent this disease we must prevent obstruction of this system.

This obstruction may occur in two ways. 1st. From *lack of development* of this system. 2d. Excessive development, which leads to inflammation of these glands and therefore obstruction. The first class would include the congenital and the leptomeningeal forms, while the second easily explains tubercular meningitis.

To prevent this obstruction we must know to what element or elements of the system it is due, *i. e.*, which is the predisposing cause. In the congenital form it is evidently due to lack of some nutritive material. This material is by the best authors believed to be phosphate of lime.

The phosphate of lime is found to be deficient in the bones of such subjects. The value of this remedy in the treatment of hydrocephalus (chronic) led Grauvogl to prescribe it as a prophylactic. He gives a striking illustration where two children had died of hydrocephalus acutus. Both children were taken sick when they began to *cut their teeth.* During the next pregnancy Dr. G. gave the mother *Sulph.* and *Calc. phos.*, the *Sulph.* to favor the formation of tissue and the *Calc. phos.* to favor the formation of the bone. Two subsequent children were saved by this prophylactic treatment. He has, he states, "pursued this method for six years, in all families in which there has ever been a hydrocephalic child, with the same good results." The writer and

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other physicians have followed this rational and scientific method with like happy results.

The explanation is doubtless this, that the *Calc. phos.* and *Sulph.* favor the highest activity of the reabsorbent system, and thereby prevent the cephalic effusion and bony absorption.

Bony absorption always occurs in these cases; at least that is Grauvogl's as well as the writer's observation.

Prevention of Hydrocephaloid.

But hydrocephaloid is the result of quite a different disease, due to quite a different exciting cause,—cholera infantum or summer complaint from excessive heat. We will find that there is as great a similarity in the predisposing causes as there is in the hydrocephalic result. The remedy that prevents the one will also prevent the other.

As we trace back the symptoms of a case of hydrocephaloid, we find green stools one of the most persistent. Now to what is that due? Evidently to the coloring-matter of the bile, *i. e.*, bile acids. But why is the bile acid when it should be alkaline? What has neutralized the soda base of the bile? Some acid. Which? The sour breath, the profuse acid perspiration (if there is any), profuse urine, all point to lactic acid as the cause. For this train of reasoning we are indebted to Dr. Grauvogl. (Vide *United States Medical Investigator*, vol. iii, p. 433.)

Acidity causes hyperæmia of the brain. Now this acidity favors the effusion of serum. It dissolves the bones of the head, and the calcareous matter obstructs the lymphatic reabsorbent system of the meninges, and hydrocephaloid is the result. An efficient remedy to prevent this train of symptoms is the same Calc. phos. Frequently better yet is that wonderful remedy Calc. carb.

In an article on the etiology of cholera infantum read before this Institute in 1874, I made the observation, "A child that perspires much about the head is very predisposed to cholera infantum." To this I would now add that such a child is being poisoned by lactic acid, and it only needs a burst of hot weather to develop profuse green stools and hydrocephalic effusion. You

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will observe we now have an explanation of that singular symptom "sweat of head."

The value of Calc. c. and Argentum in the treatment of both hydrocephalus and hydrocephaloid you have no doubt noticed as verified in practice. Hand in hand with the remedial prophylactic must go the hygiene.

A mother whose children develop hydrocephalus should be fed during gestation with food having a proper quantity of Calc. phos. If living in a limestone section the excess of lime may occasion subsequent trouble, and boiled water should be used.

The large quantity of free lactic acid in cow's milk and the ease with which it is increased by rapidly souring during hot weather, either before or after ingestion, renders the selection of food for children often a serious matter.

Milk is their normal food, but it should be alkaline—most alkaline when taken. Then it must be rapidly absorbed or acidity will soon result. The remedies that aid the highest activity of the absorbent and reabsorbent glands will prevent hydrocephalic complications. This the mild homœopathic remedy is able to do most effectively.

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XII.

TREATMENT OF HYDROCEPHALOID.

By H. V. Miller, M.D., Syracuse, N. Y.

The treatment of hydrocephaloid and of earlier stages of cholera infantum must be adapted to the general anæmic condition. In many cases carefully selected homœopathic remedies, seasonably administered, will cure by removing the predisposing cause. But hygienic measures must not be neglected. Suitable diet and plenty of fresh air is required; sometimes a change of air is indispensable.

Such little sufferers are usually overfed, and the quantity of food must be restricted on account of defective assimilation. Cow's milk is very apt to disagree, and when taken it is often ejected in coagulated lumps, since it contains too large a proportion of casein. Various kinds of food, suitable in any stage of cholera infantum, are prepared from wheat or from a mixture of wheat and barley. Many use oatmeal gruel, beef tea, rice flour, wheat flour, starch, to which the upper part of milk is added after standing awhile, etc. Sometimes the little patient will best relish the juice of beefsteak, chewing small pieces and swallowing only the juice.

Jahr and Schweikert depend upon *Phosphorus, Calcarea carb.* and *Zincum* as specifics in hydrocephaloid.

The following are the principal remedies, with some of their indications:

Æthusa.—The milk disagrees and it is immediately vomited in coagulated lumps; after stool and vomiting a semi-comatose condition; pupils dilated and insensible to light.

Apis.—Child screams out very sharply when asleep or awake (compare Zinc.); urine generally scanty.

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Arsenicum.—Great prostration; pallor; emaciation; great thirst, with drinking but little at a time; striking the head with the fist.

Borax.—Constant vomiting; painless stools; child makes an anxious face on account of downward motion.

Calcarea carb.—Leucophlegmatic temperament; fontanelles large and slow to close; muscles soft and flabby; much head-sweat during sleep; child makes an anxious face when lifted from the cradle.

Calcarea phos.—Complexion dirty-white or brownish; skull very soft and thin, crackling like paper when pressed upon; peevish and fretful children (Cham.); diarrhœa, with much flatulency during dentition; greenish, thin stools.

Cuprum acet. or met.—Convulsions, commencing in the lower extremities or in the fingers and toes, with much throwing about of the limbs, frothing at the mouth and choking in the throat; spasms, preceded by violent vomiting of mucus.

Ipecac.—Constant nausea, with occasional vomiting; stools fermented and of many colors or as green as grass; paleness of the face and blueness around the eyes; catarrhal symptoms as concomitants.

Iris.—Great irritation of the gastro-intestinal tract; nausea and vomiting of sour fluid; colicky pains every few minutes in the epigastrium; stools thin, watery, copious, tinged with bile.

Kreosote.—Constant vomiting and greedy drinking; belching or hiccoughing when the child is carried.

Natrum mur.—Vomiting and diarrhœa worse during the day; great emaciation; great emaciation of the cervical muscles.

Phosphorus.—Child drowsy, wants to sleep all the time; after drinking water, it is vomited as soon as it gets warm; stools white, green or watery, gushing out like water from a hydrant; loss of hearing.

Veratrum alb.—Cold, clammy sweat on the forehead; skin generally cold and damp; great debility; pulse very small and weak; great thirst for cold water; great prostration after stool.

Zincum.—Feet constantly fidgety; on awaking, the child appears frightened, and its head rolls from side to side; during sleep it cries out (Apis), starts and jumps.

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XIII.

EXPERIENCES WITH HYDROCEPHALUS AND HYDROCEPHALOID IN CALIFORNIA.

By W. N. Griswold, M.D., San Francisco, Cal.

As intelligence of the topic to be considered by the Bureau of Pædology did not reach me until April 30th, 1877, I have had little time to correspond with physicians in different parts of the State and too little to give that personal consideration to the topic which it probably deserves. However, I will endeavor to present an idea of conditions in and about San Francisco, and, so far as possible, from interior localities, each of which, so spotted is our climate, has something of its own peculiarities.

My sources of information are: 1st. The Health Office reports of this city; 2d. Impressions and statements given me by practitioners of both schools of medicine.

In looking over the reports of the health officers, most of the fatal cases of brain disease are found recorded under hydrocephalus, encephalitis, tubercular meningitis and congestion of the brain. These diseases have so many common and so few distinctive symptoms, that a finer discrimination than that usually exercised by educated and busy practitioners must be presumed before one could be satisfied to rely upon the absolute accuracy of their statistics.

When it is considered that, for a quarter of a century, from one-third to one-half the practitioners of this city have been uneducated men, and that they were likely to mistake hydrocephalus for encephalitis or hydrocephaloid for congestion of the

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brain, the doubt of accuracy must be greatly intensified. Nevertheless no other way seems open but to take them as they are.

In San Francisco, from 1873 to 1876, inclusive, the population gradually advanced from 250,000 to 300,000.

Reports of the health officers during that period of four years give the total deaths annually as follows: 1873, 3641; 1874, 3548; 1875, 3710; 1876, 4179.

Except in 1873, hydrocephalus and tubercular meningitis are thrown together under the head of hydrocephalus. In that year there were 41 deaths by the former and 3 by the latter; total, 44. The number of deaths by hydrocephalus were 52; in 1875, 63; in 1876, 58; *i. e.*, in 1873, there was 1 death by hydrocephalus to 82.75 by all other causes; in 1874, 1 to 68.23; in 1875, 1 to 58.88; in 1876, 1 to 72.05; or the yearly average for the whole number of years was 1 to 70.47.

The deaths by hydrocephalus, in proportion to the estimated population, in 1873, were 1 to 5681.81 inhabitants; in 1874, 1 to 5000; in 1875, 1 to 4365.07; in 1876, 1 to each 5000 inhabitants; or, taking the average for four years, the deaths in this city by hydrocephalus are annually 1 to 5011.72.

The proportion of deaths by this disease between the *period* (No. 1) *of two years*, before the age of two, and the period (No. 2) of three years, from the ages of two to five, were, in 1873, as 4.85 to 1; in 1874, the proportion was as 3.40 for the *two* years to 1 for the *three* years; 1875, 2.60 for period No. 1 to 1 for period No. 2; 1876, 2.56 for the first period to 1 for the second. Here is a decided, gradual and almost *unaccountable* annual decrease in the ratio of deaths for the *period* (No. 1) *between birth* and the age of two, while the *total* deaths by hydrocephalus for those years shows no decline, but rather a gradual increase, greater even than the proportional increase of population. It may *mean nothing;* it may be related to the following, viz.:

1st. Owing to the increase of homœopathic practitioners in this city from 1868 to 1873, when all of them had got well to work. Previous to and after 1873 the homœopathic practice made rapid and steady progress.

2d. The practice of homœopathy is *popularly* believed to be better adapted to diseases of infancy than those of a stronger age.

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This leads to the employment of homœopathic physicians for the tenderest ages.

3d. It is true that homœopathy, while it may do little *good* for the diseased constitution, does less *harm* than the heroic treatment, and this is increasingly true in inverse ratio to the age of the patient.

4th. It is true, conversely, that the delicate and susceptible organs of infancy suffer severely under the heavy masses of medicine administered by the "regulars," and this is increasingly true also in inverse ratio to the age of the patient.

Did not the increase of homœopathic and the corresponding displacement of "regular" practice among children, during the four years, reduce the ratio of deaths from 4.85, in 1873, to 2.56, in 1876?

Reasons exist in this city why, among children *above* the age of *two*, hydrocephalus and kindred diseases should have made, proportionally, greater ravages than *before* that period:

1. The stimulus of our sea-winds along the coast affect children old enough to be on foot and in the open air as well as adults.

2d. Repose in different seasons of the year, in trans-mountain climates, is enforced by extremes of cold, heat, moisture, etc., extended over periods of from several days to several weeks, but in California one part of the year is as favorable as another for activity and excitement, and with children, as with adults, body and brain are on the stretch from one year's end to another.

3d. Our public schools of late years are replete with overtaxed brains, and it is probable that children even in the nursery are no exception to the excessive and prolonged mental activity which pervades the school and business circles. Hence, though it may appear that homœopathy has caused a marked decrease in deaths among children under the age of two, so great is the forcing incident to the causes above alluded to, that the decrease is more than overbalanced by the deaths among older children.

And yet the assumption that hydrocephalus is, on the whole, comparatively a rare disease, seems warranted, while hydrocephaloid does not appear among our health reports at all.

Fifty-eight (58) deaths among 300,000 people tells its own

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story. Fifty-eight (58) deaths among 500 physicians would be 1 to every 10, or each physician would lose a case every 10 years.

On inquiry of medical practitioners, one of large practice tells me he has had two cases and *one death* within three months, but his memory cannot carry him back to the next previous case.

In about *ten* years I call to mind in my own practice but *three* deaths by *any* brain disease, one of which was by hydrocephalus, another probably by hydrocephaloid, and the third by basilar meningitis.

About thus run the statements of other physicians in *this* and interior cities.

Drs. Hughson, of Sacramento, Hempstead, formerly of Marysville, and Cross, of Stockton, physicians who have had abundant work in the hottest regions of the State, estimate the prevalence of cholera infantum and kindred diseases in their respective localities, as from ten to twenty-five per cent. of what they had been accustomed to in practice east of the Rocky Mountains. The comparative infrequency of the enteric class of diseases in localities where they would be most expected to prevail decreases the soil in which *hydrocephaloid* thrives, so that even where it might be anticipated it would be of frequent occurrence it is scarcely known.

Undertaking to account for the (assumed) infrequency of hydrocephalus and hydrocephaloid, attention has been called to two considerations, one related to constitutional causes, the other of a climatic nature.

1st. The various blood dyscrasias are the foundation of almost all chronic and many acute diseases. As dust and débris settle on undisturbed antiquities, so these dyscrasias deposit themselves with increased density, force and efficiency upon the unexcited circulations of inhabitants domiciled for successive generations in one locality.

No systemic revulsions or convulsions interfere to break the chain of occult causes which, under such circumstances, are perpetually developing scrofula, consumption, sycotic, cancroid, syphilitic and other diseases. Social and other interests lead to a succession, physiologically speaking, of ill-assorted marriages,

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and through this means these dyscrasias become interminably interwoven among the population.

In some old communities these occult dyscrasias constitute a permanent element of the (*there*) normal physiology, inmeshing themselves among its interstices and enveloping it in their dire embrace. It is certain that, under such conditions, hydrocephalus and other tubercular diseases are likely to abound.

Let an individual from such a community, even in the advanced stages of tuberculosis, encounter the vicissitudes of a trip around the Horn or across the Continent (old style), and the change of scene, of atmosphere, the incidents of tide, flood and storm, operating through the *nervous system*, will divert into other channels or more or less permanently suspend the course of his dyscrasial disease.

Almost the entire population of California have passed through the ordeal of immigration. The children from here are products of organisms reinvigorated and purified by transplanting, and are much less likely to be the prey of hydrocephalus and other diseases arising from a scrofulous diathesis.

2d. A peculiarity of California climate tends to diminish the number of cases of hydrocephaloid to the minimum.

Prolonged as well as *intense* heat are required to produce cholera infantum and attendant hydrocephaloid.

Atlantic and Mississippi Valley climates furnish these conditions combined. California does not. Here the day heat, ranging from 90° to 110° in the shade, is even more intense than there, but the nights, owing to the air-currents, are almost invariably cool. The mountain breezes towards evening rush to the heated valleys, not only lowering the temperature there, but extending their influence towards the sea-coast, where they are supplemented by the winds of the ocean.

In the East the nights are nearly as warm as the days. They furnish no effective barrier to interrupt or suspend the fierce diurnal heat. Consequently hydrocephaloid is likely to be more frequent in the East than in California.

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XIV.

HYDROCEPHALUS AND HYDROCEPHALOID, THEIR MANAGEMENT AND TREATMENT.

By W. H. Jenny, M D., Kansas City, Mo.

Those who have so ably given you the etiology of this disease have told you that it is a tuberculous disease of the brain, and hence it must necessarily be managed and treated like any other form of tuberculosis.

The management must begin with the parents if we know them to be tuberculous. We must commence to treat the child through the system of the mother. We have a class of remedies which should modify the diseased action in the offspring, and if such a case is committed to our charge, we should place the mother under rigid hygienic regime, and give our antipsorics as they are indicated. As soon as the child is born it should be under the most watchful care.

The first great prophylactic against the disease is to have the child nurse, and if the mother has developed a tuberculous cachexia a healthy wet-nurse must be found to supply her place. The infant should be taken to the country during the summer months, and given plenty of fresh air. It should be clad in flannel next the skin, unless this causes irritation; if so, cotton-wool may be worn next the skin, and flannel covering this.

It must nurse until it has all its incisor and four molar teeth; after this it should be placed upon a wholesome diet, principally of milk and bread, with potatoes and other plain articles of food, meat-broth and eggs.

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The infant must be bathed with regularity each day in salt and water, and wiped dry, and afterwards friction with the hand until the surface is in a healthy glow.

Care should be taken that the child has no unusual degree of excitement nor is too roughly played with, as tossing it in the air or pouncing it hard on the knee, or anything that may excite fear in the mind of the child. All soothing syrups, cordials, elixirs, etc., must be proscribed *in toto;* also any ointment or wash that we are not made acquainted with. The child must not be exposed to any eruptive or contagious form of disease, as this might set up inflammation and development of the tuberculous cachexia. Should any humid eruption appear upon the scalp or face, or any part of the body, avoid repelling it, but try and cure it with internal medication. Should the infant pass its teething process and reach childhood without having had meningitis, we may have strong hope of its getting along without the attack, providing all previous precautions are persevered in, especially bathing, accompanied with friction and exercise in the open air; being careful to avoid exposure to inclement weather until it is sufficiently strong to withstand the vicissitudes of the climate.

All brain symptoms of course must be carefully watched, and receive immediate attention.

Our great hope in this class of cases must be to ward off attacks, as when they do come they are very fatal, but not to the extent generally supposed. All the statistics we have at present are from the allopathic school of medicine, and they tell us they have been unsuccessful in almost every case. They have used blisters, setons, issues and pustulating ointments, and placed cold water on the head to keep down the heat. Vogel says the results are universally fatal. Can this be possible when we see so many children from tuberculous parentage reaching adult age? Is it possible that they all escaped meningitis during childhood? We will now give the treatment that we have most successfully pursued.

Water has been to us a prophylactic, and we must now use it as a remedy. Salt baths may be used at from 72° to 84° F., never lower, but they may be carried higher. The child may

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be placed in the warm bath from two to four minutes at a time with benefit during an attack of meningitis, and cloths wet in tepid salt water kept constantly on the head. As prophylactic medicines I should use any of the antipsorics indicated, and those most often indicated are Calc. c. and phos., Baryta carb., Silicea and Sulphur. As acute remedies, Acon. Apis, Bell., Bry., Agaricus, Cham., Ig., Gels., Hyos., Hell., Verat vir. and Opium will be oftener used, although other remedies as important may be indicated.

Hydrocephaloid (*Spurious Hydrocephalus*).—The indications for treatment are twofold; 1st, to remove the cause, and 2d, to cure the disease. The cause is disease of the gastro-intestinal tract and it attacks those children who are not nursed. The first step would be to obtain a healthy nurse, following out the same general rules as are indicated under acute hydrocephalus.

If the nurse cannot be obtained, recourse must be had to some of the best prepared foods. Liebig's preparation of beef is excellent in many cases of extreme exhaustion; also Ridge's and Horlock's food for infants. I would also call attention to condensed milk as a food, which has, in my practice, answered so good a purpose that I scarcely ever use anything else. Of all the different brands of this milk the most useful one to me has been the Pennsylvania brand. I now use the Osprey and Eagle New York Milk Company's.

Should the child be bathed?

My experience has been in some cases that the child should be lubricated with lard instead, as there is a great lack of animal heat, and bathing tends to reduce the temperature of the surface of the body.

Remedies.—The most important remedial agents are Æthusa, Borax[12th], Arsenicum[30th], Chamomilla[30th], Iris[6th], Ant. crud.[3d], Calc. carb.[31st] and phos. Phos. ac.[6th], Sulph. ac.[20th], and a long list of others ought to be added to the list, as all remedies which apply to intestinal catarrh and enteritis folliculosa apply to spurious hydrocephalus.

Æthusa cyn. has answered the best purpose in my experience, and more nearly covers the totality of symptoms than any other remedy that I have used.

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General symptoms: Great prostration and debility; great anguish and restlessness; ill-humor; vexed and irritable; colic; heat of the head; delirium and frenzy; spasms; pupils dilated, and strabismus; hands clenched, with thumbs turned in; violent vomiting of coagulated milk, also vomiting of greenish mucus, followed by coldness of the extremities and great exhaustion.

This is followed by a soporous condition, half-closed eyes, countenance pale, altered and collapsed.

Autopsies in poisoning from Æthusa show its great applicability.

The sinuses of the brain are filled with blood; the intestinal canal is filled with air; light-colored bile in the duodenum; liver hard and yellow; spleen has a livid color; kidneys congested. With this display of pathological effects let us compare J. Lewis Smith's autopsy after death from hydrocephalus:

"The sinuses of the brain were congested with blood, with numerous blood-clots; the stomach and intestinal canal showed streaks and patches of blood."

Next in applicability comes *Sulph. acid*[200th]. I have always found this attenuation to act more satisfactorily to control the diarrhœa and stomatitis. I have been in the habit, for several years, of giving infants antipsorics at stated intervals until the teething process was concluded, Calc. phos. being the one most frequently used.

In conclusion, allow me to say that instead of death being the rule in this class of cases, it has been the exception to the rule where we could obtain the case before the comatose condition set in, or the system was so much reduced that extreme emaciation or infiltration of the lymphatic glands had set in.

Congenital Hydrocephalus (*Chronic*).—This disease is sometimes cured, but cures thus far reported are extremely rare.

There is such an abnormal condition of the brain as to render frequent cures impossible. The treatment must be, principally, bandaging the head in such a manner as to make an equal pressure on all points. Strips of adhesive plaster one-third of an inch in width may be placed upon the head, making a close-fitting cap, and thus preventing the head expanding. If the straps are put on too tightly they will give rise to convulsions, and

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should be immediately removed. An elastic cap might be worn with good effect. The general health of the child should be attended to; it should have a very nutritious and easily digested diet, daily baths of salt and water, with gentle friction, together with such remedies as Ars., Apis, Calc. c. and phos., Silicia and Sulphur.

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APPENDIX.

DISCUSSION.

HENRY N. GUERNSEY, M.D., of Philadelphia: I rise, Mr. President, for the purpose of making a few remarks on Dr. Jenny's paper, which is on the whole a very commendable one. The general idea expressed in that paper in regard to the bathing of children is in my opinion quite correct; but there are special cases, and not a few of these, in which, in my opinion, too much bathing, or bathing beyond what is necessary to cleanliness, is absolutely injurious. If we find that our little patient is not refreshed after the bath, but seems languid, weak and altogether worse than before, we should certainly stop the bathing and try to get along with medicinal and other means.

In bathing children I frequently use the salt-water bath, and away from the sea I take the ordinary fresh water and add a quantity of salt to it. This I find does very well in some cases.

In regard to the use of remedies in these cases, the antipsorics occupy a conspicuous place, and will be indicated oftener than any others. Sulphur is one of the most important of these, and is indicated very frequently; but there is another which comes in very well in many cases, and especially where Sulphur seems to be indicated and yet does not do what you expect of it. That remedy is Psorinum, and it sometimes acts very nicely.

I remember a case of hydrocephalus which came under my care a number of years ago; a very marked case. The child was treated in this country for a long time and was then taken to Europe, where it was seen by some prominent European physicians. It was then brought to this country and came under my care. The hydrocephalus was very extensive; the bones of the cranium seemed to be entirely separated from each other, and might have been said to be literally floating in water; the child was almost an imbecile. This case recovered perfectly under the use of Arsenicum.

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A MEMBER: What potency did you use?

DR. GUERNSEY: I do not remember now, as this occurred about twenty-five years ago. I suppose I used the 200th, as that was my favorite potency at that time.

S. LILIENTHAL, M.D., of New York: I wish Dr. Guernsey would tell us how he differentiates Sulphur and Psorinum.

DR. GUERNSEY: On the spur of the moment I can hardly do it. It would require some thought to give it to you clearly.

DR. J. C. SANDERS, of Cleveland, O.: I have a few remarks to make, Mr. President, but I wish first of all to join in the commendation of Dr. Jenny's paper. It is a good paper and presents subjects worthy of the consideration of this body. Several of these points struck me at the time the paper was being read, the first of which has been touched on by Dr. Guernsey. I wish to add my testimony to what he has said regarding the bathing of infants, which, according to my experience and observation, is often a very cruel and barbarous thing, a much-abused custom. Few delicate babies will bear bathing; if we bathe them in water at a high temperature, the result is exhaustion; if we use the water at a low temperature, there does not seem to be sufficient vital force in them to react or resist. I, of course, advocate cleanliness, which is next to godliness; but I think that with delicate children, and especially with that peculiar class who seem to have the tendency to hydrocephalus, the less they are bathed the better for them; at least this is my opinion, which is founded on observation.

I would call your attention to the matter of feeding babies, which you will all recognize as being of the utmost importance. I fully indorse the suggestion of Dr. Jenny regarding the substitution of a wet nurse where the mother defaults, for I think that the nearer we keep to the mother's milk the better for the babe. But in the matter of artificial foods my experience is quite different from that of Dr. Jenny. I have used condensed milk and find that it is only exceptionally borne; and in regard to the Liebig and other animal broths, while I will not call in question that in the hands of some and in exceptional cases they have done well, my experience is decidedly adverse to their use; they seem to disturb the bowels and give rise to pain and griping; they also add to the heat; the added heat increases the heart's action and adds to the general irritability of the system, and if entered upon as articles of food they will, in my opinion, eventually have to be abandoned.

The suggestions in the paper in regard to other artificial foods I would in the main indorse. I wish, however, to make a remark touching the use of milk. The mother's milk is of course

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the true type of babies' food, and we have a poor substitute for it in cow's milk, in the cases cited by Dr. Jenny, cases that have their origin in gastric disturbances. My experience is that the milk from one healthy cow, properly diluted, makes the best substitute for the mother's milk while the child is in good health, but so soon as the bowels become irritated and the stomach disordered, cow's milk seems to be in general not tolerated, and will be vomited and purged from the gastro-intestinal tract; and when this occurs we must abandon milk and go to some other food, to, as the paper suggests, vegetable food, if you please, or any other that will do.

S. P. HEDGES, M.D., of Chicago, Ill.: I wish to add a few words to this discussion, Mr. President. For nine years I have been in charge of the Chicago Half-Orphan Asylum, and I have made it my business to make special study of the diseases of children and their treatment. In regard to bathing, I do not quite agree with Dr. Sanders that as a rule it is injurious, but I fully agree with him that it can be overdone; but there are many cases where the children are at least refreshed by bathing. I can speak more positively, however, in regard to the practice of inunction, inunction with almond oil, which we use at the asylum exclusively, and we think with great benefit. We use it once a day, rubbing it into the skin thoroughly, and then with a soft cloth removing the excess so as to make the child comfortable. The nurse uses very little water in this process, which we consider equivalent to washing. The oil is used warm, as warm as can be borne, and it cleanses the child perfectly and leaves its skin in good condition.

In regard to food, we use largely the "Eagle brand" of condensed milk, which is borne very well by about sixty per cent. of the children. About forty per cent. of the children do not seem to thrive on milk at all, and when we find that milk does not agree with a child we abandon it, at least for a time. It sometimes happens that the medical treatment resorted to produces such a change in one of these that we feel as though it might thrive on the milk, and we accordingly give it again, and sometimes it will do well enough with it, while in other instances we will have to give it up again and go to something else. I think that sometimes physicians permanently injure children by compelling an adherence to milk as food, in spite of all the remonstrances of the system against it. I have sometimes found the yolk of an egg that had been boiled for a long time, rubbed up into a paste in a mortar, or with a knife on a marble slab, to correct a faulty digestion, and it does the child good in various ways.

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DR. B. W. JAMES: In regard to the inunction—at what age do you begin?

DR. HEDGES: We begin as soon as the child comes under our care.

DR. JAMES: Do you continue it as the child grows older, or use it with older children?

DR. HEDGES: We do.

DR. JAMES: Do you have any washing or bathing done at all?

DR. HEDGES: We certainly do. At least once in every two or three days we give the child a warm sponge-bath, and follow with the use of the oil at once. We do not do this with the older children.

DR. LILIENTHAL: Do you buy the oil by the gallon? I understood you to say that you placed the child in the oil.

DR. HEDGES: The inunction can be accomplished with a spoonful of oil. I use an oil which I procure from a druggist who is very particular in importing it.

T. L. BROWN, M.D., of Binghamton, N. Y.: Why do you prefer the almond oil to lard?

DR. HEDGES: Because we have found that the oil is more readily absorbed than the lard. It is a matter of experience altogether, and we have found that this oil was more readily absorbed and was more beneficial than any other grease we used.

DR. BROWN: Do you know that this oil possesses medicinal properties?

DR. HEDGES: Certainly we do, but we have never thought it worth while to consider the medicinal qualities of the article.

DR. BROWN: Do you give the yolk of egg you were speaking of dry, or do you give it with something as a vehicle?

DR. HEDGES: We sometimes give it dry, just before food has been taken. It seems to increase the appetite at once. We sometimes give it with the milk, or put it with whatever food the child may be taking, whether milk or farinaceous food.

THOMAS MOORE, M.D., of Germantown, Philadelphia: A few words about feeding babies. It is my opinion that most of the infantile diseases of the class we are now discussing are the results of malnutrition. A child may be plump and feed heartily, and yet it may be starving to death; not because it does not get enough to eat, but because what it gets is not of the right kind, and does not supply certain elements which the child needs. These must be supplied by artificial foods. This want may be made up by feeding the mother as well as by directly feeding the child. If the mother's milk is not the right kind, it may be and often is due to the mother not taking the right kind of food.

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Above all things she should eat heartily of vegetables and fruits. Many a poor woman deprives herself of fruits and vegetables, to the detriment of herself and her baby, because she believes that such things are bad for the baby, will give it colic, etc., and she has been taught to believe so. They would not eat a little cold slaw, nor eat a peach or a pear, nor drink a glass of lemonade for the world, and these are the very things they should have, vegetables, fruits and acids. If a mother is in good health, she should have plenty of food and in great variety, comprising animal, vegetable, and fruits, and she will be sure then to make good wholesome milk and her child will be well nourished. If the mother is in ill health and her milk is poor and cannot be improved by feeding her, the sooner a wet nurse is procured the better. I do not allow a young baby to have animal food; but after the canine teeth come they may have a little meat. As substitutes for mother's milk I may say that I have used condensed milk very successfully, and I have also used quite extensively a mixture consisting of equal parts of good fresh cows' milk and boiling water, sweetened with sugar of milk. I think with that mixture we have an excellent food, and one that resembles very closely the breast-milk. I received this hint from the *British Journal of Homœopathy*, and it was therein suggested by a Mr. Henry Turner, homœopathic chemist of London, England. The formula, as I use it, is easily remembered: Half a teacupful of milk; half a teacupful of boiling water, and a heaping tablespoonful of sugar of milk. I find that this almost always agrees with the child. I cannot approve of giving a baby boiled eggs; they have not the stomach to digest such food.

L. E. Ober, M.D., La Crosse, Wis.: There is one food that I have found very useful for babies that I have not heard mentioned as yet, and that is mutton broth. I prefer it to beef tea or condensed milk. I prefer to have it made from mutton fresh from a good pasture, and in my experience it is a most excellent diet for infants. I am much pleased with Dr. Jenny's paper, and I coincide with all that has been said regarding the mother's milk; but in relation to the use of farinaceous foods I am very careful how I use them. They have a tendency to irritate the bowels, and if I believe there is the slightest tendency to gastro-intestinal irritation, I certainly should not advise the use of food that is chiefly digested in the intestines.

T. J. Patchen, M.D., Hot Springs, Ark.: I rise to say a word in regard to the use of alcohol for nursing mothers. Hundreds of physicians recommend that some form of alcohol be given to mothers to increase and improve the milk, porter and lager beer being favorite prescriptions for this purpose. I do

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not believe in slopping cows to make good cow's milk, nor do I believe in slopping mothers to make good mother's milk. I believe that alcohol is detrimental to the child under any and all circumstances, and may lead to hydrocephalus, hydrocephaloid and diseases of the same nature. Alcohol, we know, is not changed in the system, and as the mother gets it so the child gets it, and the child is nursing milk punch from its mother. The child sleeps splendidly, is the report, after the mother has taken a glass of lager and other alcoholic preparations; while the fact is that the child has been made drunk and is sleeping off its drunkenness. We as physicians should cast the weight of our influence against this pernicious practice.

Nursing mothers should take plenty of oatmeal mush with milk, and plenty of cracked wheat. After having nursed a baby through the night, they feel languid and weak in the morning, and they should have a good mess of oatmeal mush with milk the first thing in the morning. You will hardly believe how refreshing and strengthening this is to the exhausted woman.

DR. W. H. JENNY: In closing the discussion, Mr. President, permit me to thank the Institute for the kindly manner in which they have received my paper.

In regard to bathing babies, I use very little water, and I use a quantity of salt with it to form the bath. It must be borne in mind that where I live we have an excessively dry atmosphere, sometimes having no storms the summer through, nor until the cold weather sets in; a marble slab, for instance, in that country will get so hot that you cannot bear your hand upon it.

I remember that at one time my own child was very ill, lying, in fact, at the point of death, being entirely pulseless. In despair I gave it the Liebig beef extract, a few grains in water, and the child took it, a few spoonfuls at a time. Reaction soon set in, and, being established, I resorted to other food. That is my method of using the beef extract, in a dilute form, and only until reaction has set in, using at the same time the appropriate homœopathic remedy. My child, that I have just alluded to, got so that she would take no food at all. On one occasion, on coming home, I found her eating ravenously a hot soda-biscuit which the nurse had given her. I expected her to die, but she did not, and she continued to eat these biscuits hot for some time afterwards, and would take no other food. They seemed to be just what she needed, and they did her good. I would not prescribe hot soda-biscuits for a sick child on general principles, but in this instance they acted like a charm.

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SECTION XIII.

REPORT

OF THE

BUREAU OF GENERAL SANITARY SCIENCE, CLIMATOLOGY AND HYGIENE,

T. S. VERDI, M.D.,	Washington, D. C.
B. W. JAMES, M.D.,	Philadelphia.
D. H. BECKWITH, M.D.,	Cleveland, O.
F. H. ORMES, M.D.,	Atlanta, Ga.
A. R. WRIGHT, M.D.,	Buffalo, N. Y.
L. D. MORSE, M.D.,	Memphis, Tenn.
W. H. LEONARD, M.D.,	Minneapolis, Minn.
GEORGE W. BARNES, M.D.,	San Diego, Cal.
O. S. WOOD, M.D.,	Omaha, Neb.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 2.

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VI.

BOARDS OF HEALTH, THEIR SCOPE AND POWER.

By Tullio S. Verdi, M.D., Washington, D. C.

Public hygiene is an important branch of general hygiene. Public and private hygiene differ only in the mode of application. Private hygiene regards the individual; public hygiene, society. This is apparently a new science. I say apparently, because the ancients, in periods of civilization and refinement, did not disregard it. The cloaca of Rome is a monument of ancient hygiene, one which, although twenty-five hundred years old, is in use now and indestructible. Recent discoveries in Syria and Jerusalem prove that the Mosaic sanitary laws were most religiously observed. It seems, however, that with the fall of Eastern and Roman civilization sanitary science perished. Public hygiene needs general facts, authentic statistics, positive studies and exacting measures. These studies of general facts and authentic statistics lead to the suggestion of sanitary measures, to which every law-abiding citizen ought to conform and should gladly obey. In studying the material as well as the moral and intellectual influences that affect the social structure, we must be led not only in the interest of common preservation, but also in the amelioration of our kind, in all the conditions of our existence. Public hygiene may be far from possessing all the materials necessary to solve all the questions under its domain, but well-conceived statistics and reliable records will, in

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the course of time, throw so much light upon causes and effects, that future generations may draw from their teaching lessons of incalculable benefit to the preservation and amelioration of the human family. The medical art and science is but a feeble protector when a community is invaded by a fatal disease as an offspring of neglected sanitary laws. Hundreds of instances might be cited to prove how powerless the medical faculty is to stay these scourges that decimate populations. Our own country, in very recent times, can illustrate the truth of this statement. We need not go to the Egyptian nor to the London plagues. New Orleans, Key West, Norfolk, San Antonio, Baton Rouge, Memphis, Nashville and Savannah are sufficiently suggestive; yellow fever or cholera cast dismay and death among their benighted people too often for them to forget their recurrence. Diphtheria in Albany, scarlet fever, etc., in Chicago and other cities, are also factors in this problem. These plagues are never checked nor conquered until sanitary science comes to the front and fights filth as the Indians fight the fires of the prairies. The sanitarian cleanses the city, regulates the markets and the sale of food, condemns and abates every nuisance injurious to health, in spite even of the claims of property and of liberty. As in time of war or threatening conflagrations, the few must suffer that the many may live. It is well known that as a fatal epidemic approaches people ignorant of sanitary science become panic-stricken, abandon the sick, the dying and the dead, which become a further source of the prolifery of the virus, until the atmosphere, laden with the germs of disease, destroys a whole people. A current of air then takes clouds of these germs, carries them aloft and to other cities, until the scourge travels thousands of miles, leaving death and desolation in its track. To meet this terrible foe, everything must be removed upon which it may find shelter and food. A people skilled in sanitary science, when threatened by such an incursion, clean streets, alleys, grounds and houses; remove all filth; prevent the sale of unwholesome food; have care for the sick and remove them from crowded localities; isolate those affected by contagious or infectious maladies; disinfect the premises, etc.; so that when the invading foe arrives it meets at the very gates of the city, ozone,

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the great destroyer of animalculæ and germs, for ozone abounds where there is no filth or infusoria. The wars of the East generally engendered the plague, but war in our New Orleans brought health. The yellow fever, almost perennial in that locality, found no favor in the administration of General Butler. If the general could not be killed by a bullet, he would not be killed by a mean worm or a low fungus. He placed an army in the streets—not armed with muskets, but with brooms—and removed everything in which this invisible but dangerous enemy could find aliment and opportunity for fermentation and procreation. Orders were peremptory; sentinels were not permitted to sleep at their posts; and if the dreaded enemy did come, it died where it fell, and to the horrors of war were not added the horrors of death, pestilence and famine. New Orleans, a city of death and fear during the careless times of peace, was a city of health during the war. This alone should demonstrate the fact that fatal epidemics are impossible in localities governed according to the dictates of sanitary science. Whenever you hear of a fatal epidemic in any city, believe me that city is badly governed; you will find in it faulty drainage and incapable sanitary police. The individual is either powerless or indifferent; it is a maxim that what is everybody's duty is nobody's duty. We are forced into that conviction by our every day's experience; hence we select to have governments whose prerogative is to attend to public duties. During the last thirty years communities have become aware that unless sanitary organizations are created they would be at the mercy of these recurring misfortunes.

France, in 1848, decreed that there should be established a "Consultation Committee of Public Hygiene," to which the government shall refer all matters connected with san tary science, sanitary laws and sanitary improvements. Magendie was the first president of this organization, and from that time some of the most notable and scientific men of France have been honored with an appointment in its council. This committee subdivides its labors as follows: 1st. Sanitary service of the exterior. This bureau sends sanitary agents abroad, and particularly into those countries where infectious diseases prevail; these agents keep the Paris committee informed of the irruption of any and every in-

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fectious or contagious epidemic likely to spread through commercial intercourse. The committee then takes the proper measures for quarantine, and sees that every vessel coming from that locality is provided with a clear bill of health. Thus the importation of disease is timely prevented. 2d. A bureau for the organization and supervision of all the boards of health of the nation. 3d. A bureau of epidemics and endemics, whose duties are to study and suggest the means for their prevention or abatement. 4th. A bureau of sanitary police. 5th. A bureau of industrial and professional hygiene, having in charge trades and arts injurious or dangerous to life. 6th. Sale of food and drink —to prevent adulterations and the sale of unwholesome articles. 7th. The practice of medicine and pharmacy—to prevent charlatans from imposing upon the credulity of the ignorant, and the putting up of recipes by incompetent pharmacists or their assistants. 8th. Mineral waters—to make their analyses, and declare in what diseases they might be useful, so as to prevent the deceptive advertisements of the proprietors of the same. 9th. Veterinary practice. From this great council emanates all the sanitary laws, rules and regulations of the land. This committee, however, is only advisory; but upon its suggestions and recommendations the government enacts the laws that regulate the nation.

In England they have a "General Board of Health" in the Department of the Interior, at the head of which is a so-called Officer of Health, or the Health Officer to Her Majesty's Privy Council. Through this board Parliament is advised of the sanitary condition of the country, and made acquainted with the measures required to improve the health of the same.

These systems, more or less modified according to the forms of government, are adopted by all the nations of Europe. Even Japan is creeping up with this sanitary progress, having instituted an Imperial Board of Health. The members of this board visited our country last year for the purpose of investigating our sanitary methods. They were very much impressed with the thoroughness of the work in Boston and New York, but particularly in Washington. They returned determined to organize throughout their empire local boards of health subordinate to the

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Imperial. We have heard from them since their return, and they are at work in earnest.

The individual does not concern himself with the duties of the masses, hence these organizations are necessary. I know that there exists some distrust among the physicians of our school regarding these boards of health. They seem to fear an intrusion on the part of these boards upon their rights. When this question is sufficiently studied, however, this anxiety will prove to have no foundation in fact. I have no doubt—I know, indeed—that men, under the plausible title of boards of health, have arrayed themselves against the practice of homœopathy, but these are they who labor under defective legislative bills; and it behooves the homœopathic physicians to see that bills creating boards of health are not defective or vicious in their intent. When bills pass a legislative body containing clauses discriminating in favor or against any mode of practice, I know that homœopathic physicians have been recreant to their duties. There is no country in the world where civil rights are so jealously guarded as in this blessed country of ours, and homœopathic physicians have only to be watchful and energetic in antagonizing any and every measure operating against their own rights to find but few representatives who will dare to indorse an encroachment upon their rights as citizens and professional men. I never had any difficulty in getting to the willing ear of legislators, where my personal rights or those of my profession were invaded or ruthlessly cast aside. But, gentlemen, the elements of failure are in our own ranks. It is pitiful to see disputations arise in our midst as we stand confronting the enemy. We have the sad picture of Michigan before us. That noble State has done its duty; the homœopathic physicians have not done theirs. I cannot *qualify* here, although noble men have stood invulnerable when others have skulked or created confusion. Intelligent men know whom to blame and whom to praise. The rent that took place in the homœopathic files in that State was not done by the enemy's projectiles, but by the egotism and selfishness of our own men. While lovers are quarrelling, Mephistopheles is brimful of diabolical laughter. Whenever a homœopathic physician declines to labor in the interest of our profession, whenever

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he becomes fractious and speculates on his own chances, spot him; he is a black sheep in the fold. There are those among us, also, who, satisfied with their share of public patronage, never contribute by an act or by a word to the advancement of our profession. These "dogs in the manger" should be driven from the fellowship of those who love their profession, not only for the benefit it brings to themselves, but for the great good of the whole confraternity and of humanity.

Hygiene is the science that has relation to the prevention of disease. To comprehend hygiene, it is requisite that the hygienist be learned in all the causes that disharmonize the functions of vital organs or disturb the human economy. The atmosphere should at once demand his careful attention, for from the atmosphere nothing can escape; without atmosphere the animal and vegetable kingdoms must perish. But the atmosphere varies sometimes in accordance with physical laws and astronomical events, sometimes by accidental causes. The temperature is of importance, for a transition from extreme heat to cold, and *vice versa*, constitutes sudden forces, modes of motion that are dangerous to the tenuity and normality of the action of membranes and organs; dry and moist atmosphere, atmospheres in different degrees of motion, all tend to increase or decrease molecular force in our body; hence pure atmospheres, and atmospheres holding in suspension mephitic gases, fungi or infusoria play a great part in the maintenance or destruction of life. It may be said, and with truth, that nine-tenths of all the causes producing disease are found to exist or are carried in the atmosphere we breathe. As fish inhale and float in water, so we inhale and float in air. The quality of water has certainly relation to the life of fish; polluted water kills the fish, polluted air kills man. What pollutes air, then? Every mouth that breathes, everybody that inhales, all animal and vegetable matter in a state of decomposition, the home fire, the burning candle and a thousand other things pollute the air. People gather in towns and cities, but they do not go alone; horses, cows, hogs, poultry, dogs, cats, etc., are brought with them to assist in the great struggle for existence. Every such animal, man included, is a nuisance *per se*. But to this must be added also their daily avocations, their trades

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and manufactures, as rendering of fats, boiling bones, making glue, gas, slaughtering animals, etc., etc. Every such animal and every such occupation increases filth that accumulates in streets, alleys, vacant ground and cesspools. If you add to this a moist, undrained soil, you have the foundation of every disease that humanity may be destroyed by. These are the causes that induce zymotic diseases and that swell the general mortality from twenty-five to thirty per cent. independently of epidemics. In the towns of Asia and Africa, where people are congregated in narrow areas, where drainage is not known and filth is cast on the highways, where water is scarce or neglected, where houses are damp and ill-ventilated, germs of disease not only find a pabulum but a condition most favorable to fermentation and reproduction. From these regions came the most fatal epidemics that alarmed Europe.

The supply of water is another very important department of hygiene. Man needs this agent for nutrition and for cleanliness; it should be plentiful and pure. Deleterious substances in water may be even more dangerous to human life than deleterious substances in the air. England in her self-sufficiency, and engaged largely in manufacturing, had lined her streams with mills and turned the offal of the towns into the rivers, and in the course of time she had polluted her potable waters. A cry of despair went up, and the sanitarians were requested to correct the evil. Untold millions were spent to purify the Thames and other rivers; immense waterworks were constructed to carry water from remote and healthy sources; enormously expensive filter-beds were laid, and a great channel was built into which is pumped the sewage water of London. So the disregard of sanitary science has cost England many millions of money and many valuable lives.

That majestic river, that carries industry and commerce through many of our fertile States, the Mississippi, would soon become a cesspool and a source of evil if its banks should become covered with a people that its very utility attracts, and the offal therefrom should be cast into its channel. The streams of New England, whose banks swarm with an industrious and advanced people, would be depopulated and deserted if the denizens had

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not found means to bring unpolluted water to their towns. It is also a debatable question whether the expensive sewers that now under-tunnel our modern cities are for good or for evil. Sanitarians are loath to praise the system, for besides polluting the water-courses, and thus extinguishing a most valuable article of food, the fish, communications with the sewers are direct means of carrying sewage gases into our dwellings. Mechanics have not been very successful in the total prevention of the introduction of these gases into our streets and houses, for these channels must have ventilation to prevent explosions from pressure yet, every opening so made gives exit to deadly mephitic gases, ammonia and carbonic acid gas. The higher the dwelling, the higher the locality upon which it stands, the more exposure to this influx of gases, for the mephitic gases are lighter than air and therefore ascend to the highest elevations. Moreover, these offals so despised are sources of wealth, and public economy should teach how to utilize them instead of casting them where they can only be a source of danger to human life. Already a great progress is going on in this direction, and I hope that the time is not far distant when every ounce of such excretions and débris will be zealously preserved for the fertility of our fields.

Food is another department of great importance to animal existence. To be useful it must be wholesome and moderate. Persons engaged in this traffic are not so particular as to the excellence as they are to the price. But few butchers would bury the carcass of an animal whose meat is found to be unsound after slaughtering; the love of money will hush the pangs of conscience, and diseased meat is found exposed for sale on the vendor's shambles. The inspection of all markets is an imperative duty of sanitary authorities. In the city of Washington, where boast is made of the excellence of the markets, the Board of Health has in the last five years condemned and destroyed 122,601 pounds of various meats, 8114 chickens and birds, 28,691 bunches of fish, 28,479 bushels of oysters, 188,000 clams, 171,390 crabs, many tons of vegetables and many hundred barrels of eggs, etc., as unfit for food, which but for its vigilance would have found their way into the stomachs of our people.

Another very important department connected with sanitary

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science is the registry of vital statistics. In the concise words of a registrar:

"The practical result of this registration and the rules of its departments is to place under immediate observation the number of deaths occurring in a given district, the cause and locality of each, enabling the sanitary board to arrest the spread and progress of epidemics, endemics, contagious or infectious diseases, and promptly abate existing causes of preventable maladies, the preservation of records for testamentary evidence and to bring all cases of death under immediate official observation for the prevention and detection of crime. To secure this, a mandatory law is necessary, for physicians and undertakers often neglect to make the proper returns. Our experience in our city was that at least thirty per cent. of the dead were not returned under the old system. But we petitioned Congress for a law forbidding the burial or disinterment of bodies without a permit from the Board of Health. The law was enacted, and since then we are able to account for every dead person in the District of Columbia. It was mortifying to our pride as a board and as citizens not to be able to furnish persons and foreign governments with records of deaths for testamentary evidence.

"No well-regulated community can afford to thus disregard the interests that are involved in questions of inheritance. Yet to-day there are not half a dozen cities in all the United States where a perfect registry of vital statistics is kept. These records are not only valuable in the prevention of local diseases, but in the comparative statistics that lead to the knowledge of the healthfulness not only of cities but of States and of countries."

All the above duties devolve upon sanitary authorities or the so-called boards of health. Boards of health, to be useful, must have the authority of law, and be independent of local legislation, for those who are affected by the wise provisions of these boards, either in their interests or their peculiar sense of individual rights, throw all the obstacles in the way of the exercise of these boards' prerogatives. Members of boards of health should be men of science, of independence, free from all prejudices, religious, political or medical; they should be learned humanitarians, whose sole aim is the preservation of human life.

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Homœopathic physicians, hygienists by virtue of their peculiar practice, should not fear boards of health. For six years I have stood alone in a council of four allopathic colleagues, two of whom are physicians. I have been their Secretary, their Health Officer, and I am now their President. I have had my struggles, and greater than you even can imagine, but I would not have the rights of my profession trampled under foot, and I fought until I won. In the State of New Jersey, the homœopathic physicians would submit to no chance of evasion, and demanded that it shall be explicitly expressed in the law creating a State Board of Health, that at least one homœopathic physician be a member of the same, and they won, and Dr. J. J. Youlin, of Jersey City, was selected and appointed. In Keokuk, Iowa, we have another distinguished member of our school, Dr. Seidlitz, as the President of the Board of Health. So, gentlemen, let us move forward, let us not decry boards of health, hospitals or asylums, but let us demand a fair representation. Let us work with unanimity; let not that hydra, envy, rise amongst us, and the time will come when we will have conquered a peace, honorable, glorious and everlasting.

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SECTION XIV.

REPORT

OF THE

BUREAU OF MICROSCOPY,

J. D. BUCK, M.D.,	Cincinnati, O.
S. A. JONES, M.D.,	Ann Arbor, Mich.
C. P. ALLING, M.D.,	Dunkirk, N. Y.
O. P. BAER, M.D.,	Richmond, Ind.
J. H. BUFFUM, M.D.,	Pittsburg, Pa.
J. M. SCHLEY, M.D.,	New York.

TO THE

THIRTIETH SESSION

OF THE

American Institute of Homœopathy.

VOLUME I. NUMBER 1.

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I.

HISTOLOGICAL ELEMENTS.

By J. D. Buck, M.D., Cincinnati, O.

The theories which have from time to time prevailed with regard to the elementary forms of living matter have relied for their verification on the revelations of the microscope, but, as gradually through these revelations the primary structure of the tissues has been more or less accurately determined, the need has become apparent of a theory which should take cognizance of all discovered facts in histology, and enable us to comprehend at a glance the character of vital changes, as well as the material concerned in them, which have been discovered, and must necessarily be observed only in detail. For the term theory I should here substitute the expression philosophy of histology.

Any such attempt as that proposed would be met at the outset by the advocates of certain theories, as the protoplasm theory, the cell theory, the "germinal matter" theory as advanced by Beale, etc., and regarded as hostile to them, but all such opposition is removed as soon as it is discovered that the proposed philosophy includes all the essential factors entering into these theories or forming a basis therefor, besides a great deal not therein considered.

The necessity for some such comprehensive estimate of histological processes becomes specially apparent when the attempt is made to acquaint the medical student with the essential features of histological discovery. The very wide range of such discovery

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in its present condition requires for its comprehension little less than the full amount of time usually devoted to the study of medicine, and even then the knowledge obtained is disjointed and made up, in part at least, of conflicting theories. Probably no one theory relating at all to this matter has elicited more interest or been better comprehended than that known as the "cell theory." The cell, in a more or less modified form, is known to constitute the ultimate element of tissues, but the fallacy once taught by Virchow and others, that this cell, specially endowed with cell wall, contents, nucleus and the like, is the starting-point of all change of tissue, whether of a pathological or histological character, is now known to be true only within very narrow limits in point of fact, and in matters of inference to be wholly erroneous, for those conditions and combinations of matter present in organized cells, which render incident metamorphosis possible, are found to have pre-existed in the structureless colloids, and the cell is ascertained to be a specially modified bit of protoplasm and after-development of a structureless colloid. In no broad sense, therefore, can the cell proper be said to constitute the primary element of tissues. It is not primary, but secondary; it is not first, but final; it is not the beginning, but rather the completion of histological processes.

The only sense in which the organized cell can be regarded as the primary element of the tissues is a limited and very specific one, though by no means unimportant on that account. If we consider an innumerable number of relatively independent centres of vital activity, in which all the absolutely essential qualities of life have for some time existed, as the result of progressive change, but which have as yet given rise to little, if any, difference of parts—if we consider such elements as now coming together or associating with the differentiated tissue cells, and thereupon undergoing special modification as to form and structure, and special correlation as to function or modes of motion—if the life of this colloid is conceived to have undergone no abrupt transitions, but to have passed through a progressive metamorphosis, ascending till perfected in its likeness to the tissue to which it belongs, descending from the point of functional activity to disintegration of substance and dissipation of

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force through complicated correlations—if we consider all this, not as so many incidents, but as a continuous whole, we shall thereby obtain some adequate conception of those vital parts which, by association, constitute the living organism, not as opposed to, but by virtue of a relatively independent life of which they are the centre. We have here a wheel within a wheel, or rather an innumerable number of internal centres of motion whose conjoined impulse centres again in the organ or tract to which they belong, whose centripetal impulses are concerned in the maintenance of structure, and whose centrifugal forces constitute the function of the organ or part. We have here both an evolution and an involution, forces radiating from a centre, forces converging toward a centre; but in all this complicated process there is no evidence of abrupt transition or arrested motion. Continuous progressive change, unending correlation of force, a dizzy dance of molecules and atoms, which nevertheless constitute the rhythm and the harmony of life.

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II.

CELL-LIFE.

By O. P. Baer, M.D., Richmond, Ind.

Previous to the discovery of the true circulation of the blood by Dr. William Harvey, in 1619, very little was known about the structure of the cell, and far less about its functions and life. It was left for the nineteenth century to develop into scientific arrangement all that we now think we know about this wonderful little structure—the cell, the Aladdin's lamp of all organized structure; the first and the last of all animated nature; the very quintescence of structure, than which there is no more powerful potentate. Yet how insignificant in appearance is this first of all finited, infinitesimal, primordial structure—the cell. It sits queen from everlasting to everlasting, without fear of being dethroned or succeeded by an alien. From the tiny monad, coccus and amœbe to *man*, the noblest work of God, all alike are virtually composed of cells. Let the structure be ever so simple, consisting of but one cell, as the coccus, or of innumerable congeries of cells, the same grand, universal principle everywhere prevails, that all things made or to be made must necessarily consist of finites (atoms), nucleoli (molecules) and cells. *Inanimate* nature, in all its entirety, is composed of finites and molecules, while *animated* nature is strictly composed of this beautiful trinity of material, at the head of which stands the cell.

But methinks I hear some one say, in a quizzical way, "What is this *little cell* to which you give such an important place in

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animated creation? Where is it? And what are its functions?" These are important points; they are, indeed, *the points* agitating the scientific physiologist and pathologist at this very moment.

The cell is composed of finites or atoms, built up into hexagonal, octagonal, cylindrical or globular forms, as the necessity of the peculiar structure may demand, to enable it to perform its proper uses for which it was created. The material out of which the cell is formed is variously called plasma, blastema, pabulum, protoplasm, cytoblast and bioplasm, according to the notions of the writer. The size of the cell varies in different bodies and tissues. In some localities it may be so much as $\frac{1}{100}$ of an inch in diameter, while in other localities it may be too small for instrumental measurement; for instance, how small, think you, would be the cells of animalculæ, five millions of which could swim in a single drop of water? I have seen them in asparagus and various fungi larger than the $\frac{1}{100}$ of an inch in diameter, while in other plants and also in animal tissue I have seen them too small for a solar microscope having a capacity from $\frac{1}{100}$ to $\frac{1}{2000}$ of an inch. The cell is built up from the base, and the work, as far as my experience goes, is from *left* to right. The living cell is never empty, but always full of a transparent liquid, which occasionally becomes tinted.

To cut into a vigorous growth of asparagus, you will be astonished at the extreme activity manifest; within, the cell-life is everywhere apparent; cells are elongated, widened, repaired, removed, reformed; such is cell-life in its primordial state.

Cells may be isolated, as in the monococcus, or they may be built up side by side in contiguous series, as in man. The walls become continuous, forming what should properly be called the parenchyma, but is at present denominated intercellular structure. This extra or intercellular structure is not independent of the cell, but is virtually part of its walls, as is made manifest when a cell or any number of cells break down; just so much of the tissue is destroyed as belongs to each individual cell or congeries of cells. Neither is it a fragmentary side issue to fill up space, but is truly cell-wall, made wider or narrower as the peculiar nature of the structure may demand. The cell is only known by its walls, which reveal its true state as to capacity and

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strength. The walls of cells are *ad*joined, not *con*joined; or, in other words, contiguous (*juxtapositio*) and not continuous. Hence, when a cell is destroyed it removes or disintegrates all its own property and no more; but this line of demarcation extends to the very boundary line of the property of its neighbor and no farther. There is, therefore, no adventitious or supervenient material between the cell walls, either organized or organizable, independent of the cell itself. The cell is, therefore, undoubtedly the arbiter of all vegetable and animal structure.

The contents of all cells are *finites;* the very purest, natural, primal substances, transparent and fluid, gaseous or solid. A cell is to be formed; a few finites, under the common name of protoplasm come together from the *fiat* of inflowing life seeking to ultimate itself into visible form. They are elaborated, polarized and finally nucleated into an almost inconceivably small globule, which may either be called a molecule or a nucleolus. This is the very nexus of the creative process. This nexus is soon surrounded by a larger and more active elaboration denominated the *nucleus* or, more properly, *conatus*. The creative order is now fully established. The isolated finite has joined its fellows in magic union, and are now amply ready to build the cell.

The little house soon takes form as finite after finite is laid upon its delicate walls from its storehouse within. Soon the work is done, to be repeated over and over, again and again, directly over the parent cell and elaborated from it. Thus cell after cell is created, formed and made of highly symmetrical proportions, and in strict conformity to the requirements of its adjoining cells.

The *finite*, or, as some scientists are pleased to call it, the atom, is protoplasm, waiting for the agitation of the waters of life. The molecule, nucleus, nucleolus or conatus is bioplasm, or recognized inflowing life; and the work thus finished represents the state known as cytoblast. Thus protoplasm, bioplasm and cytoblastema constitute the trinity in physical creation. The vigor of the cell depends upon the quality and quantity of its supply of nutrition and its constancy.

These remarks are rendered as my answer to the question,

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What is the cell? The question, Where is the cell? may be answered by asking where is it *not*. All animated nature is naught but cells and cell-life.

The mineral kingdom is the basis and continent of the vegetable and animal kingdoms, while it, in turn, is the derivative from the elemental kingdom. The mineral kingdom is made up of finites, nucleated into globules or molecules; but the vegetable and animal kingdoms have finites, nucleated globules and cells.

The question of cell function and life requires some draw upon your credulity, as I am well aware of the vagueness of thought upon the genesis of anything; some maintaining that matter is eternal and biological, while others account for all things upon the hypothesis of a general diffusible unembodied intelligence. I hold that there are two worlds, a spiritual, which is within and truly the world of *causes*, while the natural world, which is without, is the world of effects; that the great first cause of all things cannot be expressed in any terms more acceptable than that of *personal* intelligence, the *esse* or life itself, whose sphere of influence is coextensive with the entire universe. As the effluent rays of the physical sun extend over the entire solar system, vivifying and fructifying all things natural, so the divine life in its fulness flows into and infills protoplasm with primordial life, giving form, function and consequent motion commensurate with the uses to be accomplished. The divine life is constantly flowing down into the finest spirituous natural substances, seeking to give natural expression to divine thoughts, thus ultimating divine thoughts into physical forms. Man does the same thing as his image and likeness; for he is constantly in the endeavor of bringing his thoughts before his fellow-creatures in some very tangible form, if in nothing else than that of a wooden nutmeg, or a sugar-coated pill.

Everything in the spiritual world, as the world of causes, must necessarily flow down into the natural world as the world of effects, in order to aid, vivify and sustain all things created. "As preservation is constant creation," life is manifest in the *complex* but creative only in the *simplex*. God's works are not seen in the making, they only are seen when made. Did you ever as

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an over-earnest scientist, take a pail of water and a powerful microscope, go into the open air when the thermometer stood at 20° (below zero), and almost breathless, peering into the very globules of the water, wait for the first effort at crystallization? If you did, I know how cheap you felt, for right there and then the work was done, probably in fifty places, in the twinkling of an eye; the first crystal was formed and the radial spicula sent out as from a creative centre, and you actually saw nothing of the process. It was accomplished without noise, pomp or show, and you, though a vigilant observer, utterly failed to be able to give testimony to the fact made manifest under your keenest vision. What a sad disappointment! But as you so signally failed in this isolated case, so will you ever fail when you attempt to peer into the creative processes of life. I have anxiously watched the sprouting of the acorn, bean, corn, wheat and various other things, hoping to behold some formative work, howsoever shadowy it might be, but all in vain. I was too far off, too finite to search out infinity in causation, use or end.

That the little cell has life we all agree, and that it is not a part of it, yea is independent of it, and not at all inherent in it or its elemental components, but most evidently inflowing from a source superior to itself, representing force, life, motion—terms expressive of different phases of the same great causative intelligence. To this truth science is now rapidly approaching, and ere long will most heartily indorse. All the activities of life are in and about the cells. Its walls are composed of finites in polarity, hence the cell is electrical, and the first and most efficient of all physical *batteries*. Inasmuch as all lateral neighboring cells are simply in juxtaposition, there is interstitial electricity, and when the individual is in perfect health, every cell as a battery is in unison with each and every other cell in the organism, thus constituting one great, grand whole. And whatever cell you injure or destroy, whether the tenth or the one hundred millionth, you break the chain alike. Interfere with this perfect electrical order, and disease, sooner or later, is the result. The cell is built up from the top of the parent cell just beneath it as its base; its inflowing life therefore keeps pace with its rising structure, upward and onward. Disease and death of

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the cell must attack it at its vulnerable points, which must be its top, and thus destroy the newly adjusted or adjusting finites. Cells are not always in *vertical* lines; one cell may be the parent of many, or, on the contrary, many may merge into one, presenting the appearance, not inaptly, of a woman narrowing or widening in knitting. They sometimes present gentle curves, as in the ball of the eye, lymphatic glands, etc. In certain localities they are firm, contracted and inelastic, as in the tendons, cartilages and bones, nerves, muscles and heart, and other kindred parts. In other sections they are exceedingly mobile, pliable and elastic, as in the mouth, glands, stomach and uterus. These differences of wall structure are absolutely necessary to complete the multiplicity of needed actions and functions in the cell-life throughout the entire body.

Excretory and secretory, or in other words afferent and efferent, cells are more or less cylindrical and elongated, and act as sewerage-pipes, expurgating, purifying and separating impurities from the system, or as channels of affection, induction, recuperation, adjudication, appropriation, organization and sustentation.

Recuperation or repair of structure as is exhibited in the loss of superficial tissue, is truly wonderful. From the newly made wound to the completion of the cicatrice is as much of a mystery as an individual creation itself. Behold the gaping wound, continuity destroyed, important vessels severed and contused. Now apply your very best microscopic appliances, and observe the white blood-corpuscles as direct evidences of cellules, freighted with the finest of nutrient material, almost too pure for even microscopic vision, the real spirituous formative substance of nature seeking to repair the loss. Soon granules form in rapid succession and the breach is restored by first intention. First you behold the blood-corpuscle, then the plastic lymph, then minute granules, with interstitial plasma uniting and aiding in the required work until the last cell is completed, and *non*formative lymph as an incrusting protection is poured out to guard the finer parts within until able to bear the requirements of general life. But should the granulations become too large and spongoid in consequence of too much local nutrition, the result is, eventually, suppuration, or disintegration of these morbid growths. The

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granules proper are, when *cut* into, limpid, pure and lymphlike, while the spongoid granules (called proud flesh) are cloudy, apparently floccular and serous, thus showing a beautiful difference between pure, healthy formative *cell-life* and that life *perverted*. Each granule is a cell closed over, but the succeeding cell proceeds out of and directly from the one prior to it in formation. Sometimes a beautiful, regular row of sparkling granules, or celluloidea, arranged on either side of the fleshy chasm, are sufficient to bridge over and unite the edges without any excess of material whatever. Here Dame Nature works almost unobserved and unmolested. In darkness, secrecy and silence, little by little, were all the worlds made and all that therein is. The coral reefs and islands, the fossil coal-fields and our present forests are constantly attesting the verity of cell-life, and we are no exceptions to this general law. "In the midst of *life* we are in the midst of *death*," is and has been an axiom from time immemorial, accepted by all alike, the fool as well as the sage.

Having therefore contemplated life in the cell, let us not forget to meditate upon its death. Having *lived* it must *die*, and in dying it only prepares to live again. Finites, like histories, repeat themselves. Defective, deficient and inappropriate nutrition will blanch, atrophy, impoverish and paralyze every cell under its blighting influence. While excessive, overnutritious and morbid appropriation of nutrition will cause growth of fat, tumors of every conceivable form and character, harmless and malignant, cancroids, eruptions (volcanic), cancers and hosts of other morbific addenda, which need not be even hinted at in the long catalogue of cellular pathology. Injuries as well as misapplied nutrition do much to misdirect cell-life. Injuries contuse, obstruct or destroy the cells, which must be either repaired, removed by suppuration or spring up into morbid growths, the *atropa* of life. Examine the *cells* of whatever morbid growth you desire, whether in the vegetable or animal, and you will never fail to see them. Abnormal as to size, shape, form, general appearance and function; here arranged in circles, there in arborescent display; here in zigzags, there in straight lines; here in nebulæ, there as isolations or local foci; here diverging, there converging. Here you behold some cells quite large, spongoid

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and softening previous to total depravity, there you observe, on the contrary, cells of hardened diminutive character; they are not entirely vitiated, but are really resisting the ravages of the disease.

Such are some of the appearances of cellular pathology. They are not fancy sketches by any means, but may be seen whenever sought for in all morbid growths. The cell often dies from *within* first, as the contents diminish, dry up and pass away, or from contraction, softening, disintegration and decay of its walls.

Cell walls are often broken down *en masse*, particularly in carcinoma, contused wounds and in extensive syphilitic sloughing ulcers; but as a general thing the segregation of the dead from the living cells is done singly. In all local inflammations resulting in the suppurative process, the alteration of the cells from the normal standard is coextensive with the inflammatory action. And the same law obtains whether in peritonitis, enteritis, gastritis or any other internal organ or tissue. The cell first suffers individually, then generally. But why extend the subject any farther? It is ubiquitous, without either centre or circumference, and hence exhaustless. I have given you but a meagre initiatory instalment of the inexhaustible mental sweets kept in store for all the votaries of the microscope.

If I have induced but one person in this assembly of observers and thinkers to visit the field and labor for *light*, I have accomplished my purpose. You need not wait for a suitable opportunity, or look around you *in extenso* for a favored spot or subject; they are all present with you, everywhere, anywhere and allwhere. Just think of it. The whole universe is composed of *finites, molecules* and *cells*. A simple trinity of principles constituting the complete *skeleton* of the whole world and all thereunto belonging, covered and beautified with the same. Ought not every physician be a scientist, physiologist and pathologist of the most zealous kind? It would be a feast of fat things upon the lees; not spontaneous generation, but generation from inflowing life, filling the will and understanding with a true knowledge of the little things of nature, their relations to each other, himself and the rest of the world.

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III.

MICROSCOPY OF THE BLOOD.

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A vital or nutritive circulating fluid is a constituent in every living organism. Without it there could be no manifestation of the phenomena we term life. This fluid is called the sap in plants, in animals the blood.

Blood is formed from materials contained in food by the processes of digestion and assimilation, being modified by oxygen received through the function of respiration. It has a certain *viscid* appearance, a *density* considerably greater than water, *color*, the particular hue of which depends upon the portion of the current whence it is drawn, and a number of accidental influences which sometimes affect the hue, such as impure air, anæsthetics, disturbed respiration, inflammation and the like. The *specific gravity* varies from 1050 to 1059, the average being 1055 in normal human blood.

The *chemical reaction* is invariably *alkaline*, and if I mention a *taste* like *salt*, and a certain faint *odor* resembling the exhalations from the lungs and skin of the individual from whom it is drawn, I have recited all the characteristics discernible by the unaided senses.

When examined under the microscope, however, this apparently homogeneous fluid, even while coursing through the bloodvessels during life, is seen to be composed of a mass of circular or oval bodies floating in a clear and perfectly transpar-

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ent liquid. These minute bodies are known as the blood-corpuscles, and the containing fluid is called the blood plasma or liquor sanguinis. It is with the former that the microscopist has principally to deal.

In human blood the greater number of these corpuscles are colored and disk-shaped; that is, they are circles with flattened sides. They are from $\frac{1}{2800}$ to $\frac{1}{3400}$ of an inch in diameter, the average being perhaps $\frac{1}{3200}$. In thickness they are only $\frac{1}{12400}$ of an inch. The flattened sides are somewhat concave in the natural state, making the disks thinner at the centre than at the circumference. This circumstance causes them to appear like small dark rings with bright centres. By changing the focus of the lens slightly the centres become dark and the circular edges bright, thus showing that they do not lie in the same plane. This appearance has been by some observers mistakenly supposed to indicate the existence of central nuclei.

Of the question whether human blood-disks are nucleated, there is a difference of opinion among histologists. Reasoning analogically, it is clear that nuclei should be found, but it is equally certain that they cannot be seen by ordinary means of illumination. My friend Professor J. Edwards Smith claims that he can show the nuclei in about three-fourths of the disks, viewing them as opaque objects, illuminated by means of his improved Beck's vertical illuminator and with a very wide-angled lens. This is in keeping with my own idea that the newly formed disks are non-nucleated, but in advanced life of the corpuscle a nucleus is formed.

Besides the red blood-disks are also found a few colorless bodies, which are known as the white blood-corpuscles. They are globular in form, larger than the disks, and unlike them contain from one to three nuclei, which are about $\frac{1}{8000}$ of an inch in diameter.

The relative number of the leucocytes or white blood-corpuscles varies under different circumstances. Thus, according to Welker, a celebrated German authority, we find 1 white corpuscle on an average to 335 red ones, while Moleschott states the proportion to be as 1 to 357. From my own observations I am inclined to think the number overestimated by both, as I have

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rarely found on close examination more than 1 white to 1000 red corpuscles.

Moleschott asserts that boys have 1 colorless to 226 colored corpuscles; men have 1 to 346; old men 1 to 381; girls 1 to 389, etc.

Hirt found in the early morning before eating, 1 white to 416 red corpuscles; half an hour after breakfast, 1 to 347; two hours later, 1 to 1514; ten minutes after dinner, 1 to 1592; half an hour later, 1 to 429; two hours later, 1 to 1481, etc. According to the same author the proportion in the splenic vein is 1 to 60; in the splenic artery, 1 to 2260; in the hepatic vein, 1 to 170; and in the portal vein, 1 to 740.

The whole number of red blood-disks in the human body of average weight is about 35,000,000,000; of colorless globules, 105,000,000.

Besides the foregoing constituents of normal blood, the following ingredients are sometimes found in unusual quantities, as mentioned by the editors of the *Micrographic Dictionary:*

Cells containing red blood-disks, found in the blood of the spleen, liver, etc.

Peculiar concentric bodies resembling those found in the thymus gland and three or four times as large as the colorless corpuscles.

Crystals of hæmatoidin, at times within the red disks, at other times free.

Two distinct kinds of a white and extremely fine molecular substance, one consisting of fat, the molecular base of chyle, the other a very finely divided albuminous substance.

The *form* of the red corpuscle varies in the different classes of animals, being in the mammalia generally circular, with concave sides. The exceptions, so far as noted, are the camel, dromedary and llama, in which they are oval in form and contain distinct central nuclei.

In birds, fishes and reptiles they are oval, but the ratio between the transverse and conjugate diameters varies in the different classes. The flattened sides in these oval disks are rounded out or convex, in some varieties strongly approaching the globular form.

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In the matter of *size* there is even greater diversity than in form. The red corpuscles of the menobranchus or proteus have a short diameter of $\frac{1}{850}$ of an inch and a long diameter of $\frac{1}{450}$, while in the musk order they are only $\frac{1}{1250}$ of an inch across.

The dimensions of disks in other animals vary all the way from one of these extremes to the other.

The red corpuscles undergo almost instantaneous change in size and shape when immersed in media of different density. If placed in water they absorb it and gradually lose their concave sides, becoming flattened and then rounded out until they acquire a form more or less spherical. When immersed in syrup of greater density than the blood plasma, they seem to be compressed and present a shrunken appearance, and this brings me to speak of the constitution of these minute bodies.

The *structure* of the red corpuscle has long been a subject of discussion in histology. While Schwann, a noted observer, long since claimed them to be membranous sacs filled with a colored fluid, this opinion is denied by such as Flint, of New York, Beale, of London, and Robin, of Paris, who maintain that they are homogeneous.

Good German authorities, as Stricker and Brücke, assert that they comprise a colorless porous substance, in whose interstices resides a colored living organism.

Richardson, of Philadelphia, in a recent work adopts the older doctrine of Schwann and apparently demonstrates in the red disks of the proteus that at least some of them do really possess a cell-wall. Their action when placed in media of different densities, as stated above, seems to confirm this theory. Probably, however, the true solution is, and I offer this as my own idea only, that the newly formed corpuscles are naked as well as non-nucleated, and only in an advanced stage of their development do they acquire the envelope, which consists of the outer portion of the gelatinous mass becoming a trifle more dense than the inner portion and thus constituting a true cell-wall. This change seems to be the result of retrograde instead of progressive metamorphosis.

The red crystals to be found in blood after it has been at rest

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for awhile, and especially if it has been mixed with water, seem to be quite characteristic of the class of animals from which it has been drawn. Thus crystals from human blood are prismatic, those from the blood of squirrels are hexagonal, while the blood of the guinea pig gives tetrahedral crystals. Like the cell-wall, these crystals appear to be the result of retrograde instead of progressive metamorphosis.

Some remarkable peculiarities are exhibited by the colorless corpuscle. Perhaps none is more striking than the power of independent motion it possesses. It is known as the amœboid movement, from its exact resemblance to the movements in some forms of the amœba, and consists of a distinctly active motion among the granular particles embodied within the protoplasm or the gelatinous mass of which the amœba is composed, and also as claimed by many observers, although I have never been able to see the exhibition, a singular change of form, which is said to have been seen taking place in the periphery. By this change in form first one point and then another point of its circumference is pushed out like a rounded tubercle, a sharp spine or even a more sharply defined ray. As a description of the amœba may help to give a clearer idea of the functions of the leucocytes, I will speak briefly of its peculiarities.

The amœba belongs to the lowest form of living things, to which Mr. Hæckel has given the name protista. Its exact position in the great divisions of organic matter is subject of dispute among scientists. The botanists generally are unwilling to allow it a place in the vegetable kingdom, and zoologists, in turn, pass it over as unfitted for a place among animals.

Mr. Hæckel has stepped in and proposed a way to evade the difficulty of classification by placing them all in a new and provisional kingdom, to which he has given the name before mentioned—protista.

It is hardly proper to call the amœba an organism, for by this term we understand a structure composed of different organs possessing a variety of functions, as organs of locomotion, organs of digestion and the like. But this thing is perfectly homogeneous—a mere mass of sarcode or protoplasm. The little granular particles seen within are in no way a part of the thing

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itself, but merely accidental occupants as temporary tenants, probably food or detritus. Yet this wonderful being, although possessing no legs, can walk; without mouth or stomach, it feeds and digests; without organs of reproduction, it still reproduces its kind; and without nerves, it feels.

The colorless corpuscle is in many respects the exact likeness of the amœba and, among its other points of similarity, possesses the power of independent motion that I have described, and which is spoken of as the amœboid movement. It is said to be thus recognized in fresh blood. The parallelism existing between the amœba and the colorless corpuscle is very suggestive.

The white corpuscle is probably identical with the salivary corpuscle, the mucous corpuscle and the pus-globule. Its amœboid movement, with the power it possesses of elongating itself even to the dimensions of a mere thread, and thus passing through the minutest pores, accounts for its presence in these substances. These corpuscles are more numerous in mucus than in saliva, and still more abundant in pus. The two former are known as secretions, while the last is an effusion—a pouring out consequent upon a rupture of the walls of the capillary bloodvessels.

The microscopical examination of bloodstains has assumed an importance far greater than any other method yet employed for the discovery of crime in cases where such recognition depends upon the evidence furnished by the presence of blood. At this time more than usual attention is directed to the subject from the number of criminal cases recently before the courts wherein the question has been under consideration, and the various appliances and methods employed in these examinations have led to results quite extraordinary.

Where the task is simply to determine the presence or absence of blood in suspected stains, it is such as many microscopists might undertake with reasonable assurance of success; but when the question to decide is whether a given bloodstain has been caused by human blood or blood of some of the lower animals, it becomes one of more complexity, requiring the services of the most skilful observer.

A number of years since, the Sydenham Society published a tabular summary of measurements obtained by Mr. Gulliver, a

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portion of which I shall take the liberty to introduce here. Expressed in fractions of an English inch, according to this celebrated observer, the different kinds of blood enumerated give measurements as follows:

Human,	$\frac{1}{3200}$
Dog,	$\frac{1}{3382}$
Hare,	$\frac{1}{3580}$
Rabbit,	$\frac{1}{3807}$
Rat,	$\frac{1}{3754}$
Mouse,	$\frac{1}{3814}$
Ass,	$\frac{1}{4000}$
Pig,	$\frac{1}{4210}$
Ox,	$\frac{1}{4267}$
Red deer,	$\frac{1}{4324}$
Cat,	$\frac{1}{4404}$
Horse,	$\frac{1}{4800}$
Sheep,	$\frac{1}{5300}$
Goat,	$\frac{1}{5366}$

These figures have proved to be not strictly accurate, according to subsequent observations, but to give some idea of the differences in size of the red corpuscles among the various classes of animals they approximate closely enough to the truth.

It may seem unaccountable to some that accurate measurements can be made of objects so small as these, but familiarity with the microscope and the methods of manipulation employed by the histologist would soon render it quite plain. When it is remembered that lines so close together as 112,594 to the English inch can be clearly seen and counted, the measurement of objects $\frac{1}{12000}$ to $\frac{1}{30000}$ of an inch will appear to be a comparatively easy task. With a magnifying power of 400 diameters, a human blood-disk appears $\frac{1}{8}$ of an inch across; with 4000 diameters, the disk gives an image more than an inch across. And this is by no means the limit to the amplification employed in these examinations, although a lower power is usually preferred for its very perfect definition.

In the examination of bloodstains the material to be examined is always found in the form of a dry clot, and often closely adherent to some other substance from which it must first be freed.

Selection should preferably be made of such stains as may be

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found on the hard polished surfaces of knife-blades and handles, buttons and jewelry. When this is not possible, search should be made for spots on the glossed linen, as collar, bosoms and cuffs.

Next in order of facility in separation come the stains on undressed linen and cotton fabrics, and when none of these yield the object sought, take such as may be found on garments of woollen cloth, carpets and the like. If a small portion can be found that is free from foreign matter, place it on a glass slide. Cover with a thin covering-glass and cause a small stream of water containing three-quarters of one per cent. of common salt to flow underneath the cover and in contact with the blood.

The clot will soon become softened and some of the disks freed from the fibrin, so as to be clearly recognized with a lens of moderate power. As stated in the early portion of this paper, pure water, being much thinner than blood plasma, is readily absorbed by the disks and the shape and apparent size are often considerably altered, but this salt solution causes the previously dried disks to assume nearly their normal diameters and thus remain, while without the salt nothing can be well done in the examination.

Now, assuming that blood-corpuscles are discovered in the specimen, comes the extremely delicate task of determining whether they are from human blood, or the blood of some animal, as the ox, sheep, pig, etc.

In selecting disks for measurement it is always best to take such only as retain very nearly their normal shape; thus in the mammalia only the circular disks or such as vary but slightly from the circular form should be chosen. For this purpose isolated disks are always preferable, and if the distortion is appreciable measurement should be made of both the transverse and conjugate diameters. The method employed by Dr. Piper, in the investigation of a case in Ohio a short time since, was to make drawings of five rows with five disks in every row, with their circumferences in opposition, and then taking the two dimensions at right angles to each other. When the size of the disks in the different kinds of blood compared approximates very closely, the measurement of single disks makes the distinction less pal-

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pable than when a number of them are measured together as by this method. Yet the plan of making drawings is open to very serious objections, and should be carried out with the most scrupulous care to avoid inaccuracies. The case examined by Dr. Piper involved the exceedingly delicate point of distinguishing between the blood of a man and that of his wife. Having the blood fresh from the veins of one of the persons, he made the diagnosis perfectly. His opinion was based upon the disparity in size of the red disks and the unequal ratios between the white and red corpuscles. The man was known to have had a disease in which the proportion of leucocytes is greatly increased, and this examination confirmed the previous knowledge.

As to the possibility of distinguishing the blood of man from that of other species by microscopical measurement of the disks, it is now admitted by all experts that when the comparison is with the blood of fowl, fish, reptile and the like there is left no room for doubt. When compared with the blood of such animals as are commonly used for food, the matter is also capable of positive demonstration.

When, however, human blood is to be distinguished from blood of the dog, the almost constant companion of man, it becomes a matter of much greater difficulty, and it is safe to state that but few microscopists have sufficient experience and skill to make a positive diagnosis. Indeed, it is claimed by many of our leading authorities to be quite impossible.

There are also a few other species of animals, notably the higher tribes of monkeys, both of the old world and the new, whose blood approximates so closely to that of man that the size of the colored disks is practically identical.

Quite a number of tables have been compiled by different observers giving measurements of the blood-corpuscles in various classes of animals, showing a great want of harmony in the results. In some instances only approximate figures are attempted, in others more accuracy is claimed, and yet the fact remains that no perfect agreement exists between the different observers.

Several reasons may be given to account for the disparity in these tables.

One reason doubtless is that the size of the disks varies in dif-

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ferent individuals of the same species. This difference is generally less than between individuals of different species, but yet should not be overlooked.

Another reason is, that in the same individual corpuscles are found that are larger and others smaller than the standard furnished by the great mass of the specimen examined, and unless care were taken would lead to an unwarranted result in seeking the general average. Distorted disks have usually been discarded by all observers, and cannot therefore be said to affect the result materially in the tables referred to.

But the chief source of error, I submit, has been in the imperfect lenses with which observers have been contented to work; lenses imperfectly corrected and giving indistinct outlines, broad margins, diffraction lines, etc.; but more than all, the lenses used in making these observations have been of altogether too moderate magnifying power to afford measurements for perfect diagnosis. Suppose, for example, the blood of the dog gives disks averaging $\frac{1}{3500}$th of an inch, the blood of man $\frac{1}{3200}$th. With a power of 250 diameters the distinction is far less apparent than with a power of 4000. But let the power be increased to 5000, 8000, 10,000 or 15,000, then and there only does the difference stand out clearly and palpably. Let one-half the labor be expended in this field that has been laid out over and over again on amphipleura pellucida to resolve the striæ of this minute diatom, and results shall be obtained that shall be of value to mankind.

In closing I desire to call attention to the surface markings of blood disks which now promises to be a most inviting field of study, some enthusiasts even claiming that diagnosis of many forms of disease may thus be determined.

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